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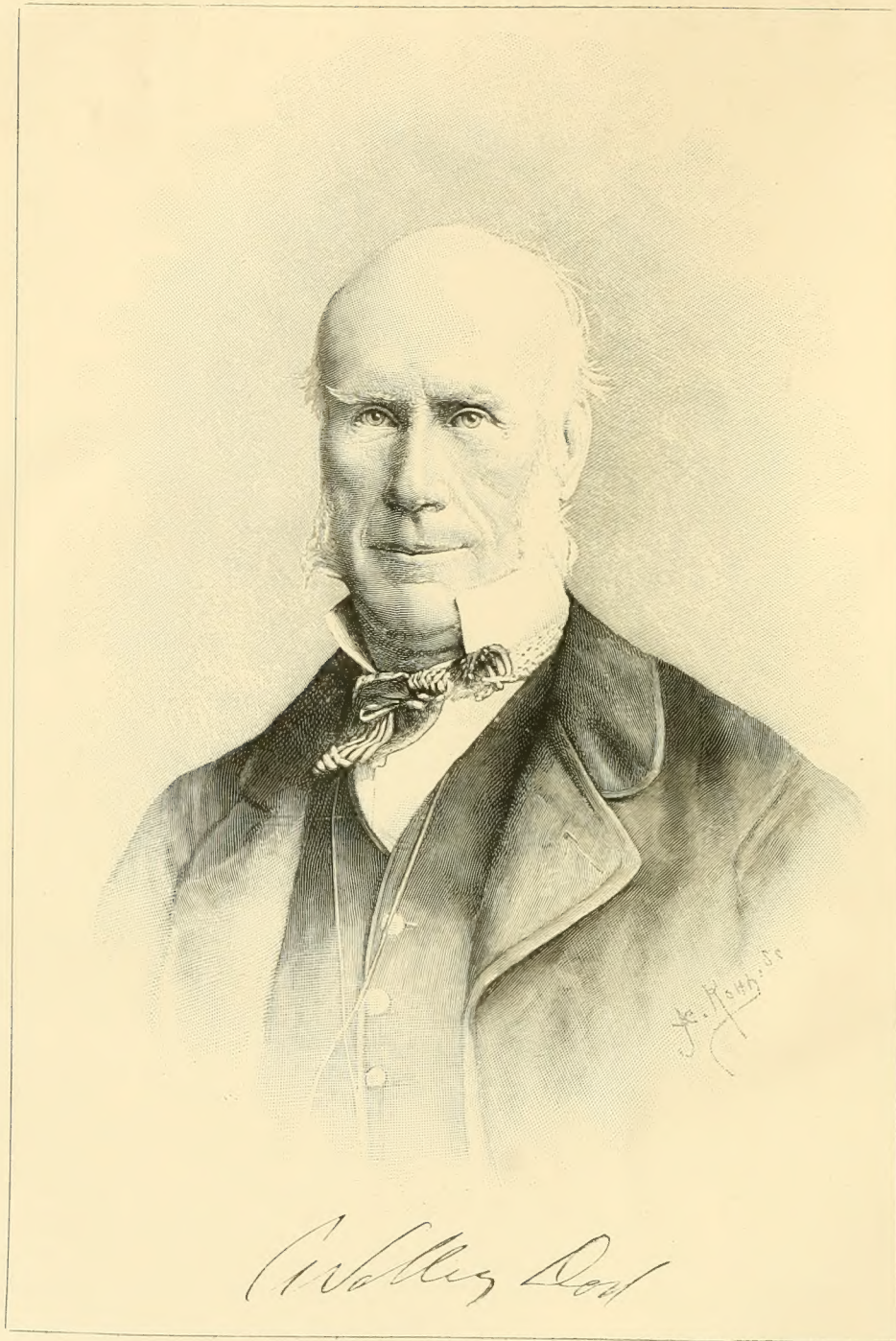
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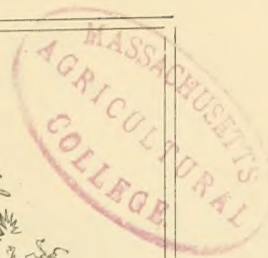
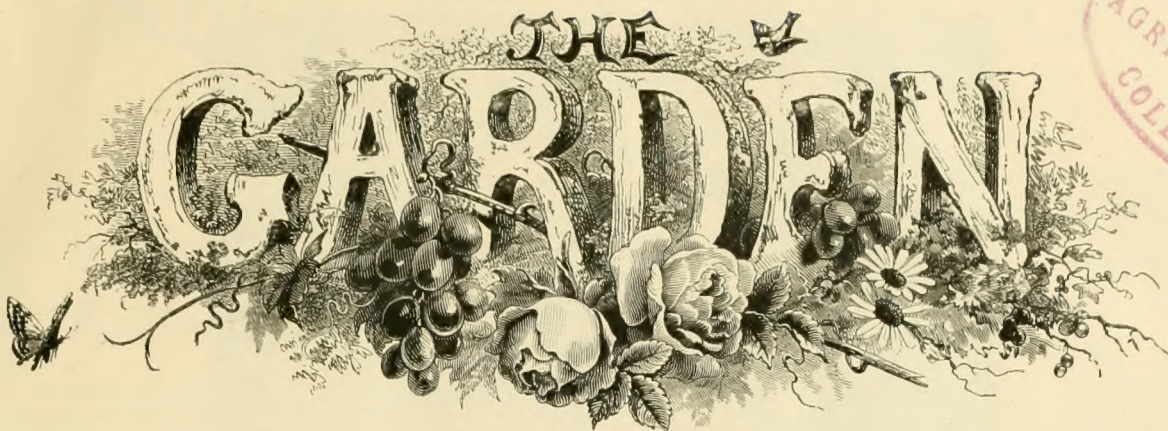
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AN

ILLUSTRATED WEEKLY JOURNAL

OF

HORTICULTURE IN ALL ITS BRANCHES.

FOUNDED BY

W. Robinson, Author of the "English Flower Garden."

"You see, sweet maid, we marry
A gentler scion to the wildest stock;
And make conceive a bark of baser kind
By bud of nobler race: This is an art
Which does mend Nature,—change it rather: but
The art itself is nature."

Shakespeare.

VOL. LIV.—CHRISTMAS, 1898.

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TO

THE REV. C. WOLLEY=DOD

THE FIFTY-FOURTH VOLUME OF "THE GARDEN"

Is dedicated,

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THE REV. C. WOLLEY=DOD.

MR. DOD was born on the first day of spring, 1826, at Matlock, both his father and his mother being natives of Derbyshire. He has often complained of the many synonyms of garden plants, and of the frequent changes in their names made by botanists; but he should not forget that in doing this he is throwing stones at others from a glass house, as he himself had three synonyms, and has borne in succession three surnames. Till he was two years old his name was Hurt; then for forty years he bore his mother's name of Wolley, and in 1868 he took the name of Dod, being the surname of his wife's grandfather, of whose small estate at Edge he then became possessor. The Dods were probably aboriginal at Edge; at any rate, there was no historical record of their first settlement in the place when the Normans conquered the county of Chester and appropriated most of the land.

From his early childhood Mr. Dod has been devoted to the love of natural history in all its branches, and was formerly an enthusiastic collector of birds' eggs, birds' skins, and insects before he paid attention to plants; but he never studied the scientific classification either of animals or plants, being contented to learn by observation the habits and differences of the living things he saw. All his life he has suffered from weak eyesight, an infirmity which has increased with years, and he has never been able to read much or for long together; but his memory, which in boyhood was remarkably retentive, enabled him to get on with lessons at school better than many who were far more studious. Before he left Eton he could stand up when called upon in school and construe an ode of Horace, holding a sham book in his hand without incurring the usual penalty for having no book. Most of his play-time was then spent in fishing or collecting insects, and as soon as mid-day school was over he might be seen sallying forth, generally running, with a fishing-rod or a butterfly net, going to the river or to Windsor Great Park, where he spent much of his time. He once got into serious trouble for bringing to his private room, over one of the shops in Eton, some harmless snakes he had caught in the park, which escaped from the bandbox into which they had been put, and so alarmed the good man of the house, that he went at once to Mr. Dod's tutor and accused "Wolley minor" of attempting to get him and his family "stung to death in their beds."

After being for six years first a scholar, then a Fellow of King's College, Cambridge, Mr. Dod married in 1850, and was an assistant master at Eton for thirty years. At the beginning of 1879 he came to reside permanently at Edge. He there devoted a good deal of attention to the cultivation of alpine and other hardy plants, responding heartily to the movement then in progress for restoring those plants to their proper place in country gardens from which they had been ignominiously expelled. Since that time gardening has been with Mr. Dod a constant habit and amusement, and though he has many other occupations, he employs in this pursuit many intervals which might otherwise be passed in idleness, boasting that he is always to be found gardening when he is doing nothing else. "Having nothing to do" is a malady to which he has never been liable, and he has always said that of all the sufferers described by Virgil as punished for their crimes in the nether world, he felt the greatest compassion for the hero who, after an active life of energetic enterprise, was condemned to be idle for ever—

*Sedet eternumque sedebit
Inpelis Thersos.*

As for Mr. Dod's gardening tastes and the plants he grows in the very cold and unpromising clay soil of Edge, enough has been told from time to time in the pages of THE GARDEN to satisfy even those who are more fond of reading than the writer of this notice. He never sends a note on the cultivation of any plant which is not founded on his own experience. Mr. Dod boasts that there is not a plant in his garden which he has not planted with his own hand.

The GARDEN.

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ORCHARD AND FRUIT GARDEN.

WATERING FRUIT BORDERS.

THERE can be no doubt that in the majority of cases fruit borders of all kinds, both inside and out, are insufficiently watered, and many failures may be traced to this cause alone. In fact, where the borders are properly made and drained it is difficult to overwater them by any reasonable means, especially outside borders under hot, dry walls. The surface of inside Vine, Peach, or other fruit borders is often deceiving, the syringing, damping down, and watering of plants in the house making the surface just moist, while below the soil is drier than it should be. Again, when water is given it is often with too sparing a hand, for nothing short of a thorough soaking of every particle of soil will do. In planting young Vines and fruit trees it is especially desirable that the borders be kept moist, though here, of course, one must not run to extremes. But, from a desire to avoid over-watering, I am sure many run into the opposite extreme and give too little. When one considers what a young Vine planted at the bottom requires to maintain the rapid growth we look for, it is obvious that the roots will soon be all over the border in search of moisture, so there is little fear of souring by giving them all the water they will take. The time-honoured custom of top-dressing newly-planted Vines with horse droppings, leaf-soil, and other materials that soon tread into a pasty, wet mass, is not the best that can be followed by any means. It clogs the passage of air and water and has always an untidy appearance, necessitating frequent renewals, with the attendant unpleasantness. Borders surfaced with burnt refuse give always a better indication of their state as regards moisture, and a short time after watering they can be raked over and all made tidy. A good deal of water is wasted by allowing borders inside and out to get dry and crack away from the walls. This is not sus-

pected often, and yet if the top 3 inches or less of the soil were removed it would be plain enough. The water of course rushes through at once to the drainage and is wasted, owing to the lower portion of the border being much drier than the upper. On outside borders a mulch of manure is beneficial, as it keeps the moisture in and does away with some trouble in watering. A great waste frequently occurs in watering with liquid manure, and not only is the valuable manurial property wasted, but the trees are actually injured. Some Peach trees in a neighbouring garden were weak and did not make a satisfactory growth, and the owner, having a quantity of house sewage, used it hardly diluted, with the result that the trees are now practically useless. Had the borders been well soaked first with clear water, then given a little of the manure highly diluted, much good would doubtless have resulted, but to give strong manure water to dry roots is a great mistake.

The watering of indoor Peach and Vine borders in winter is often neglected, with the result that the trees in spring start weakly and the Vines lack vigour. Outside trees seldom suffer to the same extent from bud-dropping as those under glass, while the former are worst after a dry season. Trees on hot, dry walls, with perhaps a vegetable crop growing to within a foot of their stems, are never so long-lived as others in more open and moist positions. All this points to the fact that root moisture, as a rule, is insufficiently provided, both in summer and winter, and has much to answer for in regard to insect attacks, weak growth, bud-dropping and other troubles of the fruit-grower.

H. R.

Apple Stirling Castle.—This is one of those varieties of Apples which never seem to miss bearing, no matter what the season may be. I have trees of it some twenty-five years old which are equally as constant and prolific now as when they first came into bearing, and I cannot call to mind a season in which fruits of Stirling Castle

have been altogether absent from the shelves in the fruit room. Besides being a constant cropper, it is almost enormously productive, and unless the trees are relieved either by thinning when the fruits are quite small, or at the latest as soon as they begin to be of service, they make but little growth and assume a stunted appearance. Heavy crops should always be thinned, as both the size and quality of the fruits retained are considerably enhanced thereby, which is a great consideration when they have to be sent to market. It also pays to feed the trees, and once they come into full bearing feeding can hardly be overdone. This Apple becomes beautifully flushed with red in seasons when sunshine is abundant. It is an excellent cooker, and keeps in good condition up to Christmas in a cool store. The only drawback is the fact of the tree being liable to canker when worked on the Paradise stock. When worked on the Doucin stock I find it is free of this disease, and it also makes more free growth. Were I planting a fresh lot of trees I should most decidedly give those on this stock the preference. As a standard on the Crab it makes medium growth, but is quite as prolific as when grown in the form of a bush, and the fruits are as a rule highly coloured.—A. W.

Watering and feeding Apricots.—The time has arrived when the above should have attention—that is, if fruit of the best quality is wished for. Apricot trees require rather more water than Peaches to enable the fruits to lay on plenty of pulp and to become filled with an abundance of the rich luscious juice peculiar to the fruit. If water is not supplied liberally the flesh is apt to be tough instead of semi-melting, and juice is then also sadly deficient. To obtain size in the fruit it is necessary that the trees have assistance at the roots in the shape of manurial aids in addition to having free supplies of water. The latter should always be given in sufficient quantity to well moisten the border down to the drainage, and repeated as often as the subsoil tester gives indications that further supplies are required. Regarding the kind of stimulants to use, this will depend on circumstances, because if liquid manure is plentiful there will be no necessity to resort to artificials. In the absence of the former by all means use the latter, and in all cases see that the soil is moistened before apply-

ing them. To apply liquid or chemical manures of a quick acting nature, or such as become readily soluble, to a dry border is sheer waste, as they find their way into the drains before the roots of the trees have had time to benefit thereby. Another matter which should be attended to is loosening the surface of the alleys before watering, particularly if it is trodden hard. This will ensure a more even distribution of the water and allow of the whole area of the border becoming properly moistened. If necessary, apply a fresh mulch, or if this has been neglected, get it done as soon as watering is completed. The trees also greatly appreciate a washing, and if this can be done daily whenever the weather is fine, it greatly assists in keeping down earwigs and woodlice besides freshening up the foliage.—A. W.

Blighted Apple trees.—Many of the standard Apple trees hereabouts seem so badly attacked with blight and aphides, that they look as if scorched, the foliage being browned and falling. This is not confined to Apples only, for Oaks are similarly affected. The crop, where there was a prospect of one, cannot stand against such a check to the tree's growth, and next season's crops must be jeopardised by the same influences. Garden trees could be syringed with an insecticide or a petroleum emulsion, but large orchard standards cannot be so easily dealt with. The prospects are not nearly so favourable for a good Apple crop now as they were only a short time ago. Trees everywhere and of almost every kind flowered beautifully and the fruit appeared to have set freely. The aspect has changed considerably, although even now there are some sorts well furnished with fruit and free from insect attacks. Lord Suffield, London Pippin, and Yorkshire Greening are some of those most badly attacked. The heavy thunderstorms occurring at midsummer may have a good effect in dislodging many insects and clearing the trees of the soot-like mould which infests the leaves.—W. S., *Road Ashton, Trowbridge.*

LAYERING STRAWBERRIES.

ROYAL SOVEREIGN is the earliest variety I grow and the first fruits have not ripened until to-day (June 21) in the open. This is later than usual, for I usually am able to gather all the best of the fruit before commencing to layer the runners for forcing and planting new quarters, whereas they are almost ready now to layer. It is, of course, a great advantage to have a reserve plot for supplying layers, but, unfortunately, most of us have to take them from the fruiting beds. For forcing it is the rule in many places to use the fruiting pots at first, but it is not the best way, especially during a wet season when the whole of the soil is soaked through by rains before the roots are half through it. Plants layered in small pots take up a good deal less room on the bed and do not cause much more trouble in watering in a dry season. In a wet one the advantages of the small pots are plainly seen by the better colour of the foliage. The subsequent repotting is, of course, a big undertaking where a large number of plants is forced, but it is not all loss even here, as the earlier work at a busy season is less with small pots. It is not often that an elaborate mixture can be prepared, nor is it necessary. Kitchen garden soil has to help out with the loam here at any rate, and it is rammed firmly into 3-inch and 4 inch pots. For a week or two beforehand this makes a job for wet days, and the pots can be stacked up closely and covered with old mats, when they will not dry up much. There is no need to drain the pots, but a lump of the more fibrous portions of the loam may be put in the bottom when filling them. On the bed a man and boy are needed, the latter to hand the pots and stones or pegs, while the man layers the runners. A man who is accustomed to the work does it very quickly, an important point being to see that the pots are stood level to receive water, while the closer they are arranged the better, as they keep moister, stand firmer, and

take up far less space, an advantage until the fruit is all gathered. The most frequent mistake in this mode of culture is leaving the young plants until they are badly potbound before re-potting, and once the roots get firmly coiled in small pots they are no better than unlayered runners, either for planting out or potting on for forcing. They should feel their pots, as it is termed, but after this the sooner they are potted or planted the better. H.

ORCHIDS.

NOTES ON ORCHIDS.

THE free-flowering nature of *Cymbidium Lowianum* and the fact that it carries its bloom-spikes for many weeks are apt, in the case of plants not in the most robust health, to lead to exhaustion. Rather than allow this the spikes should be cut after a fortnight or three weeks' flowering. On the other hand, strong, vigorous specimens carry their spikes with ease until the flowers begin to lose colour, when they may be cut and placed in water, where they last for a considerable time. The tall spikes look very pretty and natural arranged in a large bowl with foliage of *Arundo conspicua*. The flowering house has been very full during the past three months, but when midsummer is past the number of species and varieties in bloom begins to decrease. If anything approaching crowding has been allowed with such plants as *Cattleyas* or *Lælia purpurata*, these will need a little careful treatment now. Standing thickly, the light available has only reached one part of the plant, and as more shade is used than in the growing quarters this will also be felt, as well as a slight exhaustion consequent on flowering and a rather dry state of the atmosphere. If any are to be repotted they may with advantage go back to the growing quarters for a time to recuperate before disturbing them, and it is worthy of note that all such as *Cattleya Mossire*, some of the summer-flowering hybrids in this genus, and *Lælio-Cattleya* should after this date be encouraged as much as possible. Great care now is necessary in shading plants of the habit of *Promenæas*, *Paphinias* and others, that, though enjoying a good light at all times, are especially apt to be injured by bright sunlight. Compared with the majority of intermediate and warm house plants they need much more shade, simply because the foliage is thin in texture, lacking the leathery feel of that of *Cattleyas* or the hard surface of that of *Dendrobiums*. It is a sensitive class of leafage in fact, easily injured by extremes of sun or shade. These two after flowering will often need attention to the compost, the *Paphinias* especially being averse to anything sour or close about their roots. The roots are singularly large and fleshy, and to push through a hardened lump of peat is simply impossible. I like plenty of chopped *Sphagnum Moss* with these, as it does not sour easily and may be more readily removed than peat when it decays. Sound fibrous loam, too, of that soft yet tough character termed "silky," is a very useful addition to the compost and may be used in equal proportions with the materials named, plenty of crocks being added to facilitate the passage of air and water.

Dendrobiums, despite the cold, unseasonable weather recently experienced, are making good progress, and I am more and more inclining to the opinion that a fairly cool régime at first, changing to more heat as autumn draws near, is what these Orchids delight in. A close and stuffy atmosphere at first causes a weak growth, but open the houses at 6 o'clock in the morning and let the temperature rise naturally and

gradually, at the same time keeping abundance of moisture in the air, and growth of the right sort—hardened as it is evolved—will result. Insects, too, will be conspicuously absent, and this at least is a step in the right direction. Those having many short stem-like pseudo-bulbs, in the way of *D. pulchellum* or *D. Falconeri*, and the more recent *D. Victoria Regina*, should by now have made some progress and will soon be rooting. If not already done, the compost should be seen to, allowing a bit of sweet, new material about the base of the stems. If any require potting, it is those, like *D. superbum*, that flower later than the usual run, and have besides a long pseudo-bulb or stem to make up. The smaller-growing section of *Oncidium* from the West Indies, such as *O. pulchellum* and *O. tetrapetalum*, are often neglected now, and this, with a naturally weak constitution, has led them to be considered even more difficult of cultivation than they really are. If more care were taken to prevent checks by draughts and loss of atmospheric moisture—if, in fact, they were kept drier at the root and in a more regular atmosphere—they would certainly be more satisfactory, and, as is well known, they are very beautiful. It has been necessary to use much more fire-heat than usual, and even in the cool house in the latter part of May and beginning of June it was necessary to have a little warmth in the pipes. But now that more seasonable weather is with us the usual summer treatment will be practised, i.e., heavy shading and free ventilation on warm, moist nights, with abundance of atmospheric moisture that settles upon the plants in the shape of dew. In all the other departments a full growing temperature will be maintained, the Mexican house running up well with sun-heat tempered by abundant moisture at the roots and in the atmosphere, most of the *Lælia* species grown therein being quite unshaded. H.

Anguloa Ruckeri sanguinea.—The blossoms of this species are very richly coloured, the inside of the segments especially, being of a deep blood-red, against which the pale column and lip show up rather conspicuously. It is a free-flowering and easily-grown plant, though with possibly a little less vigour than the type, and may be cultivated in an intermediate house. A fairly good compost may be allowed, a proportion of good loam being of great assistance. Water freely during the summer, and in winter give just enough to keep the pseudo-bulbs plump. It is a native of Colombia, and was first imported many years ago by Messrs. Rollisson, of Tooting.

Lycaste costata.—The large and handsome flowers of this *Lycaste* are among the finest in the genus, and the plant, moreover, has an imposing appearance when healthy. The pseudo-bulbs are each 3 inches or more high, bearing large, handsome foliage. The flower-spikes are shorter, the whole flower white, with a prettily fimbriated lip. A native of the Peruvian Andes, it thrives well in the cool house, where it may be grown in equal parts each of loam fibre, peat, and chopped *Sphagnum*, a good sprinkling of rough crocks and charcoal being mixed or laid in when potting. The drainage must be good, as when growing freely the plants take a lot of water. It was introduced in 1854.

Maxillaria Sanderiana.—A good form of this fine species comes from "J. R.," the flower of the usual size and, if possible, deeper in the colour of the spots at the lip and in the petals. Although it may do as well in other positions, I have lately noted some remarkably fine plants grown in a much warmer house than usual. I never like placing these Andean Orchids in heat, for they are singularly subject to insect attacks there, and although it is true thrips can be much

more easily kept under than formerly, no doubt it is a weakened condition of the plants in the first instance that induces the attack. For this reason the plants are safest in a cooler house, progress here being more likely to be steady and maintained. At the same time I believe this species will start more freely and produce more flowers if the temperature in winter is not allowed to go below 50°. In a dark house and a low temperature in winter the plants sicken, but if grown in baskets well up to the light and the air kept moving about them they will be satisfactory. It was introduced by Messrs. Sander in 1884.—H.

Cattleya gigas.—This is certainly one of the finest of the labiate Cattleyas, and a welcome addition to the plants in flower. Many fine varieties exist, but it is certainly less variable than most species. No matter how this species is treated as to watering, temperature, or other details, there will always be individual plants growing out of season, and this leads to its flowering at various times of the year, and not keeping so closely to a stated period as is usual with *C. Mossiæ*, *C. Trianae*, and others of this class. Provided they flower upon the unseasonable growth it matters little—indeed, it has the advantage of prolonging the flowering season; but though many successful growers manage to induce their plants to do so, it is not, unfortunately, always the case, and this points to the advisability of keeping them dormant if possible in autumn, and also that of thoroughly ripening the growth, for without a doubt a well-ripened pseudobulb is far more likely to push a flowering growth than one that has been grown in dense shade. Among the plants I have, one of a fine type of *imperialis* always makes two growths a year, and though the autumn-made set never produces a flower, that made in spring never fails to bloom strongly and well.—H.

FLOWER GARDEN.

THE DOUBLE POET'S NARCISSUS.

I TAKE it when your correspondent "Dorset" enquired as to the behaviour of the Gardenia-flowered Narcissus recently in the pages of THE GARDEN, he had in mind its behaviour in British gardens and British soils. The quantity found upon the markets is but little guide in the matter, as the flowers can be packed when fully expanded with but little damage. Furthermore, they may be—and are—sent in large quantities in the expanding stages often long distances, as I know full well from personal experience, to be opened in water under glass and much nearer London. There is a twofold advantage in this, the bulbs being grown in a soil and climate more generally favourable to their well-being than our own, and possibly also where land and labour are much cheaper. Then again, carriage is greatly reduced, and this, with the enhanced purity of the flowers when opened in the manner above noted, renders them far more useful than those grown entirely in the open ground. In the above manner quantities come from a long distance, and the market supply should not act as a guide in respect to this Narcissus flowering generally in the British Isles this year. At the same time there is proof from widely different, though equally reliable, sources that this valuable and late kind has been giving of its useful flowers in greater numbers this spring than is its wont, even after producing evidence earlier that the flowering scapes were present in considerable numbers, a fact which is most perplexing when finally the very large majority are affected with the so-called "blindness." With freer flowering this spring many will anxiously desire to know the reason, the more so because it is obvious from

inquiries, as much as from opinions already given in the gardening press, that this valuable double white Narcissus is behaving well this year, irrespective of the soil, the position and likewise the locality in which the plants are growing. From my own inquiries I am able to state it is flowering quite near to London and on heavy soils, again in other places where the soil is very sandy and fine, again where but a thin layer of poor soil covers the chalk that is below, and again where a light loam overlies gravel of several feet in thickness. That it should flower so well in all these descriptions of soils would appear to place soil in a secondary position, at least in some respects. And for the general success of the crop of flowers we must, I think, look to the season, the congenial conditions of the weather in particular, and more especially to the moisture-laden warmth during the nascent period of the petals. Many who have had a good crop of flowers this year have added nothing to their usual cultural routine to produce it, and these at least must look beyond culture for the cause, inasmuch as the heavy mulch of manure given each year has not always produced a result similar to that experienced this year. But the food thus supplied has certainly not been thrown away, rather has it gone to storing up greater supplies of energy and vigour in the plant, for, perhaps, no Narcissus is so capable—and with benefit to itself—of assimilating rich food supplies as is this one. This is a fact that should not be lost sight of in planting. There is also a tendency to perpetual root action, peculiar to several others of this section, and this may in some degree account for its semi-voracious habit. One point in the culture of this variety, to which I have in past years given some prominence, is the necessity for having the bulbs thoroughly established before flowering can at all be expected, and, in making inquiries recently, it is significant that the bulbs are well established in their places in each and every instance—some two, and others three years, one case even more than this. Under these circumstances I should be glad to know if any reader of THE GARDEN has secured a good bloom from bulbs planted during the autumn of last year. That it should be essential with one kind out of the great army of Narcissus to get it thoroughly established before its flowering can under any circumstances be depended upon, is something so foreign to the family as a whole, as to make it worth recording. The primary conditions to success are to plant rather deeply—8 inches at least where the soil permits—very rich soil and one of a heavy nature preferred, and to avoid disturbance at the root. After the second year a good winter mulch should be given each season.

Touching the food supply and its value upon the variety in question, I am enabled to give some very valuable and instructive information gathered in a conversation with the Rev. G. H. Engleheart quite recently. It is instructive because it proves the value of the mulch in certain conditions of soil, for while Mr. Engleheart produces not only the most graceful and beautiful flowers of the whole genus, together with flowers of the very largest size, it will surprise not a few to know that the staple soil of Mr. Engleheart's garden is poor and hungry—a very thin layer indeed overlying, I believe, the chalk subsoil. In a portion of this garden Mr. Engleheart has a bed of several hundreds of the above kind which have produced really grand flowers this year, and to an extent hardly, if ever, before known. The flowers are of the finest possible description, and their excellence is attributed in no small

degree to the system of mulching with bone-meal to a large extent. In this case also the bulbs are well established. A portion of this rather extensive lot extends to the rooting boundary of a large Horse Chestnut, and in describing the difference Mr. Engleheart observed it was easy to define the limits to which the roots absorbed the food supplies from the Narcissus bed almost to an inch, the root-fibres from the Chestnut doubtless having rapidly encroached upon the richer food supplies in the Narcissus ground, and to an extent not anticipated when planting the bulbs. All this, of course, very natural, and if not, indeed, an instance of the survival of the fittest is at least an example of the survival of the strongest. But, having found so much, the question arises as to how we may in years to come assist this useful late Narcissus to its flowering, particularly when unfavourable weather prevails. Rich and good food can readily be given, yet we cannot compensate for cold, and, above all, harsh drying winds with frosty nights, should such prevail at the moment the flower-scape is apparent, say when a foot or more high. This is, I think, the most critical stage for these things, and doubtless the warm, moist weather this spring in conjunction with other things has favoured their flowering in no small degree. Nor should the fact be overlooked that generally in the north the blindness so-called is less than in southern counties, and the question arises whether, by being somewhat later in appearing, and therefore showing for flower, more congenial weather is experienced, which in turn is helpful to the plants. In any case, much of this may another year be determined by allowing the bulbs now flowering to remain, or some of them, and by giving the usual mulch again in the autumn ensuing. In this way neither the quality nor quantity of the food supplies would be lacking, and the flowering in 1899 would in a considerable degree depend on climatic or atmospheric congeniality. We can so ill afford to be without this valuable Narcissus that it is worth every endeavour to secure a good supply of bloom annually. Whatever the causes leading up to its flowering so well and so abundantly this spring in gardens differing widely in soils and surroundings as well as cultural details, we are at least grateful for a full crop of the large, beautiful and pure, as well as fragrant blossoms.—E. JENKINS, Hampton Hill.

—Of this one can now write with confidence, as the flowering season is over and it has been a thoroughly good one. I have been for years, and with varying results, experimenting with this plant, and, having a large number of bulbs to deal with, I have tried all the methods of treatment which I have seen advised. The most successful results have been given by bulbs which were planted last year 6 inches deep and with a heavy dressing of decayed manure buried 6 inches below the bulbs. With these there have been no blanks and the flowers have been very full and fine. In planting, the top soil was removed and the manure dug into the bottom spit; the beds were next trodden over and the bulbs distributed equally over the surface, after which the top soil was used for covering them. By planting in this way there is no fear of the bulbs being "hung up," as happens frequently when planting with a dibber. On a border of better soil holes were dug and manured, the bulbs in this case being buried 9 inches deep; the result here as to flowers was almost the same as in the preceding experiment, but the leaves appeared somewhat strangled and unhappy, and I shall not again plant so deeply. Another lot planted in the ordinary way, 4 inches deep in fair soil, without

manure, threw up many flower-stems, but did not succeed in opening a single flower. In each case bulbs were selected as nearly as possible alike in size. On each bed and group half the spikes had the points of the flower-sheaths nipped off before any of the embryo flowers began to wither, but this made not the slightest difference to the flowers and will be with me included with other fallacies disproved, among which also may be placed the notion that the bulbs dislike removal. The results attained confirm the opinion based on former experiments, that the roots in light sandy soils require manure in quantity, within reach, but not applied close to the base of the bulbs, and that lifting and replanting, if done while the bulbs are dormant, so far from doing any injury, are really a great help, provided the soil given is in good heart. Starvation is too often the lot of many home-grown bulbs in private gardens.—J. C. TALLACK, *Licemere Park, Bury St. Edmunds.*

FLOWER GARDEN NOTES.

PHLOX SUBULATA.—I do not remember a finer display of *Phlox subulata* and its varieties than has been furnished this season, and a noticeable point is, that in addition to the splendid mass of colour, the display was very long-sustained, attributable no doubt to the dull weather and copious showers. That these alpine *Phloxes* are particularly adapted for carpeting dry poor borders is evident from the annual mass of flower to be seen in the little Queen Anne's garden at Hampton Court, where the soil is naturally dry and light, and anything in the way of stimulant, either in the ground or on the surface, is conspicuous by its absence. Their adaptability as a carpet for large beds already partially planted with the tall summer and autumn flowering *Phloxes* has already been advocated in "Flower Garden Notes." I should like to add that where used for this purpose it is not advisable to plant too thickly; leave sufficient room so that a small hoe can be worked between the plants. Such beds once planted may remain undisturbed for, say, three years, and if the alpine *Phloxes* are set too thickly it will necessitate hand weeding instead of hoeing, a small matter perhaps, but one worth consideration in all places that have to be worked with a small staff. The introduction of new varieties has given us several different shades of colour. They go now from the white form through various mauves and pinks to the purple of *atro-purpurea*, and may be selected accordingly to contrast with the taller plants. They may be propagated now that the flowering season is over, and will make nice little stuff for autumn planting. For place and compost suitable for these, also later for *Pinks*, *Tufted Pansies*, *Antirrhinums*, *Pentstemons*, and similar things, a two or three light frame, or an extemporised frame that can if necessary be covered, should be chosen, and the contents of all boxes used for annuals and bedding plants emptied into it. Add a fair proportion of fresh leaf-soil and ordinary red sand, give a good treading, insert the cuttings firmly, and shade for a time from hot sun. In noting above that beds of *Phloxes* once formed may remain undisturbed for three years, I am aware that such treatment may not be conducive to the production of exhibition spikes; but if the plants are well done at the outset—that is, if the soil is naturally light and dry, they get a bit of heavier compost, in the shape of two parts loam and one of cow manure, worked round them at planting time—get a good mulching each year, and have the shoots thinned out to seven or eight of the strongest, a very fine mass of colour and very fair individual spikes will be the result.

CARNATIONS.—Considerable losses are to be seen on Carnation borders, especially in the case of some varieties, and the dark-coloured wire-worm is evidently responsible for the same; at least, in all cases where investigation is made

round the miffy plants one or more of these insects is to be found. The growth, too, is somewhat thin and weakly, but this, perhaps, is hardly to be wondered at considering the weather we have experienced through May and June. There is, however, the promise of a good display of bloom, three and four stout flower-stems being in evidence on many of the plants. Staking will soon be necessary, and should be performed so that the flowers are seen to the best advantage, avoiding undue formality, but at the same time securing individual stems, so that they are not broken down by heavy rain or wind, flowers splashed with dirt being practically worthless. Although in the majority of cases a large number of new named sorts cannot be annually grown, it is a good plan to have just a few on trial, together with a small batch of seedlings, with the view of weeding out any sorts that either from calyx-bursting, tender constitution, or long-delayed rooting from the layer are not altogether desirable. It is not advisable to dispense with named sorts in favour of seedlings until the latter have a second trial, in order to ascertain if the favourable opinion formed of them can be thoroughly verified.

HARDY PERENNIALS FROM SEED.—Now that planting is at an end, attention may be directed during the present month to the sowing of any hardy perennials not on hand that are likely to be in request for another season. Such sowing may be recommended from a double standpoint. In the first place, seedlings of good things thus acquired may take the place in prominent borders of more common plants; and in the second, because a batch planted in some outlying part of the garden is always acceptable for cutting. A portion of a narrow slip garden, especially if the soil here is naturally deep and moist, will be found useful for the purpose, and the species and varieties of the same can be planted here in beds of 4 feet, 5 feet, or 6 feet, as may be deemed advisable, with intervening alleys of 2 feet to admit of cutting the flowers without too much treading on the beds. To the lover of hardy plants, propagation of this kind is peculiarly interesting, and the seedlings are watched with keen interest right away from their first appearance above ground until the flower is clearly defined. I prefer boxes to the open ground for sowing, the double advantage being that while yet in a young stage there is better opportunity of warding off the attacks of insects, and, in the case of seed-sowing, the chance to particularise in the covering given to different seeds. The seeds are sometimes very tiny and naturally only require the least bit of soil on the top. The strips of wood at the bottom of the boxes should be fairly close together, not more than a quarter of an inch apart. A few small crocks may first be placed, followed by an inch of rough leaf-soil, the remainder of the compost consisting mainly of old potting soil, not too dry, to which have been added a bit of fresh leaf-mould and a little sand; the surface should be even throughout and pressed fairly firm. Prepare the boxes as it might be to-day, give a soaking of water, and sow to-morrow, taking care the seed is evenly covered, and, as hinted above, to discriminate as to the depth of covering according to the size of seed. Place the boxes in a frame facing north, and shade in bright weather. Be careful the squares of glass are intact, as water running in on the boxes will wash out the smaller seeds, and, as germination takes place at various periods, the boxes must be carefully watched. It is not necessary to occupy space with a list of things, because the majority of herbaceous plants can be raised in this way, and the list would naturally be a long one. It may, however, be pointed out that, with the demand for cut flowers ever on the increase, preference should be given to those things that can be utilised for this purpose as well as to make a display in the garden. The selection should also be comprehensive so far as the different seasons are concerned, and may include the many species and varieties available between the first blooms

of the *Doronicums* and the waning flowers on the panicles of the *Sea Lavenders*. I noted above that a planting to furnish cut bloom might find a place in a slip garden. If there are trees it may not be advisable to plant close up to them, but many of the things that can be selected will be benefited by partial shade. Among the things sown this year whose progress will be watched with special interest are extra good strains of *Aquilegia*, *Pentstemon*, and *Lupinus polyphyllus*, two new *Geums*, *Sidalcea Listeri* and *Hedysarum multijugum*. It is hardly necessary to add that not the least interesting point in this propagation of hardy flowers is that it is within the reach of all flower-lovers who can command a small cold frame to receive the seed-boxes and one of somewhat larger size for pricking out the seedlings until they can be consigned to permanent quarters. E. BURRELL.

Claremont.

Gaultheria trichophylla.—I sent you a note a short time since on the free flowering of *Gaultheria trichophylla*. There is now a fine crop of the beautiful blue berries, each half an inch long and three-eighths of an inch in diameter. They are so hidden by the foliage that I hope a good many will escape the birds. *Genista dalmatica* is flowering freely for the first time in my rock garden.—E. C. BUXTON, *Bettws-y-Coed.*

Sweet Peas.—I question if there is much gain in sowing these beautiful annuals in small pots with a view to forwarding the flowers, for it is not easy to get them into blossom before the garden is gay with other things, and the transplanted rows have never quite the vigour of those left quite undisturbed. If a way could be found of prolonging their season without at the same time injuring the individual plants operated on it would be a great help, but to do this a certain amount of warmth would be necessary in the earlier stages, and this is fatal to vigour or continued health and a free-flowering condition. I sowed about a dozen of the newer varieties in pots in a cool house this season and kept them quite cool until they were planted out, but though they are as strong, or nearly so, as rows sown in the open, one will be in flower almost as soon as the other. The improvement in varieties is very great, even the common or mixed seed producing very fine and highly-coloured flowers, while their value as cut flowers needs no word from me. But often they are spoilt by arranging them with heavy foliage of some kind, when they would look much nicer without any. A few of their own tendrils and stems are prettiest, while a spray or two of *Gypsophila* has also a pretty effect.—H.

A roof garden.—As I introduced the subject of roof gardens to the readers of *THE GARDEN* last year, I was much interested and pleased to see what should eventually be a charming place of the kind in Trinity College Gardens, Dublin. A portion of the yard was to be roofed over with iron, and Mr. Burbidge conceived the happy idea of adding to this a good coating of concrete and converting it into an Iris roof garden. There are about 2 inches or 3 inches of concrete and this is surfaced over with from 3 inches to 4 inches of road scrapings, in which the Irises were planted last October. It was not the most suitable time for Iris planting, but in gardening one has to do many things not according to rule, and although the Irises are as yet dwarfed in growth, they do not seem to have suffered. They comprise some of the best forms of what are popularly called the German Irises. These Irises do not appear to be flowering so freely as usual this season, but those on the roof garden referred to are in this respect more satisfactory than those on the borders in the College gardens. Seeds of *Aubrietias* and other plants have been sown among the Irises, and it is to be expected that some pretty undergrowth will be produced from these seeds. In the meantime grass has sprung up freely among the plants of Iris and looks quite in keeping with the flowers. It is doubtful, indeed, if there is anything better than grass as a groundwork for the bold leaves and stems of the Flag Irises.—S. ARNOTT.

PYRETHRUMS.

THE wet spring and early summer have suited these moisture-loving plants, and they have for the past fortnight been extremely beautiful. I do not grow the named varieties, but seedlings, and some very fine plants may be raised in this way when the strain is good. Few flowers are more beautiful in the garden or cut on long stems and simply arranged with a little of their own foliage. Their culture is very simple, seedlings raised in January flowering the first season and making fine clumps by the second. Where the soil is very heavy, a little road-grit and leaf-soil, or anything of a lightening nature that happens to be at hand, may be dug in. If the clumps become too large, or if there is a good variety which it is necessary to propagate, the clump should be taken up in early spring when the growth is starting and carefully divided with the knife. Every crown will make a new plant, of course, but it is not often advisable to cut them up so small as this. As showing how easily they are grown, I had occasion to lift some old clumps after the flower-buds were visible, and though late for dividing, they were

and foliage are cut in sufficient length they are most ornamental. Some seven or eight years ago I called on Mr. Iggulden, who was then at Marston, and there I first saw them used in this way. Since that time I have used them largely. I grow them in self-colours principally, as these are far more effective. Recently I noticed some vases and big bowls in our drawing-room. These had a fringe of greenery round the outside of the bowl. The Pansies were cut with long stems and arranged lightly, one colour in each receptacle. Although there was a goodly number of cut flowers of many kinds, both from stoves and the open garden, there was nothing to equal the Tufted Pansies. In low glasses arranged with a little light greenery, one colour in each, I find them most useful for placing on the dinner-table. Another recommendation is their enduring nature. I have had them stand in a vase from ten to twelve days by giving them fresh water occasionally. They will stand a week and look well in a warm room. When one comes to look at the length of time these continue in bloom, and that they can be grown in any good soil, one



Vitis heterophylla variegata. Engraved for THE GARDEN from a photograph sent by Mr. J. N. Gerrard, Elizabeth, New Jersey.

too large for planting, and each one was split into three or four, according to size. They were carefully planted and watered and they never looked back, being now in full flower and as fine as any in the garden. The dripping season has been all in their favour, of course, but I am inclined to think a good deal of root-action takes place in spring, which helps the plants to re-establish themselves, otherwise they could hardly look so well. In the colours there is considerable variation, but all are pretty and worth growing. The single kinds are first favourites with me, and some of the semi-doubles with long petals and a pretty quilled centre are as fine as a Japanese Anemone-flowered Chrysanthemum. H.

Tufted Pansies as cut flowers.—Those who have not used these for cutting have lost sight of one of their best features. When cut they are not often used in private gardens. They have comparatively no value when the blooms are picked off singly, as all the natural beauty of the flower is lost. But when the shoots with flower

wonders they are not more extensively grown. Last season I raised seed in a box and pricked the seedlings out, and now I have some most useful colours to cut from out of these seedlings. It does not injure them to cut the shoots, as others soon follow to keep up the supply.—DORSET.

Brompton Stocks.—In a recent issue "W.S." was speaking of the behaviour of these in his garden, and how disappointed he was in having so many singles. I can assure him he is not alone in this way. An evening or two ago I saw a big patch in a cottager's allotment of the white kind, and out of several score there was not a double amongst them. I asked him where he obtained his seed from, and he told me from a lady who lived in a cottage and had a liking for these. At the time he saw them in bloom there was a goodly number of doubles amongst them. I am under the impression the time when they are in bloom and the state of the weather have much to do with the future crop of seed, as the pollen from the doubles may not get to the singles.—D.

TREES AND SHRUBS.

VITIS HETEROPHYLLA AND ITS VARIETIES.

THE typical *Vitis heterophylla* is not very much grown in gardens, certainly not so much as either of the two varieties here mentioned. It is a free-growing Vine of medium size with leaves of a lustrous deep green, suffused, especially when young, with a reddish tinge, which is still more pronounced on the veins, midrib and leaf-stalks. The leaves are usually deeply three-lobed, but sometimes almost entire. It is a common plant in Japan, where it was noticed and described by Thunberg over 100 years ago. The fruits are small and blue.

V. H. VARIEGATA—of which an engraving is here given—is one of the prettiest of all Vines with coloured foliage. Unfortunately, it is neither so strong-growing nor so hardy as the green-leaved type. When grown in the open air it should have a sheltered, but not unduly shaded position. It is only in such a situation and in warm seasons that it is seen in any great beauty out-of-doors. It is frequently grown in pots for greenhouse decoration during the spring and summer months, and its foliage is at that time very beautifully coloured. The green ground of the leaf is mottled and blotched with delicate pink or almost pure white, the young shoots, too, being of a pretty pinkish purple. It appears to have been introduced from Japan about sixty years since, for it is recorded as being in cultivation in Rollisson's nursery at Tooting in the early "forties."

On the whole, the most attractive form of *Vitis heterophylla* is the variety

V. H. HUMULIFOLIA.—It was first discovered in North China by Dr. Bunge about thirty years ago; since then it has been found in Japan. The leaves are not so large as those of the ordinary *V. heterophylla* and the deep Hop-leaf-like lobing is more constant. But its chief beauty is in its fruits. These are about the size of small Peas and of a lovely shade of turquoise-blue. The plant requires a place specially made or selected for it. An undue luxuriance of growth has to be guarded against, as this is prejudicial to the formation of fruit. The late Mr. Ingram used to grow it at Belvoir in pots in a greenhouse for the sake of the fruits. This is not necessary, near London at all events, but a place on a south wall should be given it for the proper ripening of the wood. There is a plant at Syon House which, I believe, fruits freely almost every year. I remember seeing it very beautiful there about four years ago, and it was planted against a wall in a narrow border close to a hard and well-used path. When merely trained up a stake in the open ground it bears a little fruit, but never with that freedom which makes it at its best the most beautiful of the ornamental fruiting Vines. W. J. B.

BUDDLEIAS.

CONSIDERING its size (for it comprises about seventy species) the genus *Buddleia* is of but little importance in gardens. A great many of the species are tropical and sub-tropical and of a nature that makes them become weedy and gaunt in habit when cultivated under glass. One species from Madagascar (*B. madagascariensis*) is occasionally grown in warm greenhouses for the sake of its long spikes of bright orange-yellow flowers. There are, however, some half-a-dozen species besides that can be grown out-of-doors in the southern parts of the kingdom, and which, although not in the first rank among hardy shrubs, are well worth growing. This applies especially to *B. globosa*, which is quite distinct from all other hardy shrubs; and some of the others have their value

enhanced by flowering at a season when the bulk of hardy shrubs is past. The generic name was given by Linnaeus to commemorate the Rev. Adam Buddle, who was at one time vicar of Farnbridge, in Essex, and died in 1715, and of whom it was written more than 100 years ago that he was "an ingenious English botanist whose dried collection in the British Museum is still resorted to in doubtful cases." Mr. W. B. Hemsley observes of the genus *Buddleia* that it is one of the most sharply defined in the vegetable kingdom, and that it is, indeed, so distinct that it is not easy to determine its closest relationship to other genera. None of the species here mentioned is strictly woody, the growths retaining a semi-herbaceous character for a year or two. *Buddleias* do not want a soil of more than moderate richness and prefer the sunniest positions available. Some can only be satisfactorily grown against a wall. All of them can be increased by means of cuttings.

B. COLVILLEI.—One of the most interesting plants (and there are many such) in Mr. Gumbleton's garden at Belgrove, near Queenstown, is a large plant of this Himalayan *Buddleia*. Mr. Gumbleton enjoys, I believe, the distinction of being the first to flower it in Europe. It has since flowered with Mr. Chambers, of Haslemere, and perhaps elsewhere. Unfortunately, it is not quite hardy near London, although against a sheltered wall it survives such winters as the two last ones, but it has never yet got strong enough to flower. Indoors, on the other hand, it grows too soft and succulent and the shoots do not ripen sufficiently to flower. Mr. Gumbleton has his plant growing against a garden wall, of which it covers, if I recollect aright, a space some 10 feet or 12 feet in length. Of the *Buddleias* that can be grown in the open air in the British Isles this is by far the most beautiful. Sir J. Hooker has even said that it is the handsomest of Himalayan shrubs, and that it is impossible to exaggerate its beauty as seen on the borders of the Sikkim forests covered with pendulous masses of rose-purple or crimson flowers. There it is found at altitudes of 9-12,000 feet, and is a large shrub or even a small tree as much as 30 feet high. Its leaves are 5 inches to 7 inches long, lanceolate, the margins set with shallow teeth, dark green on the upper surface, paler below. The younger parts of the plant are covered with a greyish pubescence. At Belgrove the flowers appear during June; in the Himalaya during July and August. They are produced in pendulous, terminal panicles 12 inches to 18 inches long, are of a rosy purple or crimson and much larger than those of any other *Buddleia*. Each flower is about 1 inch long, the lower part tubular, but with four spreading lobes at the mouth, where it measures three-quarters of an inch across. There is a coloured plate of this *Buddleia* in THE GARDEN for June 10, 1893.

B. GLOBOSA.—In the neighbourhood of London and the home counties this species has proved to be the handsomest and most useful of the *Buddleias*. It is hardy, except during the very hardest winters, when it may be cut back severely, but I have never seen it killed outright. In ordinary winters it scarcely suffers at all. It grows to be 8 feet, 10 feet, or even 12 feet high, and from all the other species here mentioned is quite distinct, because of its flowers being closely packed in globular heads, each of which is about 1 inch across and borne with several others on a raceme at the end of each branch. These balls of flowers are bright yellow and appear in June. The leaves have short stalks, but are themselves long, narrow, and taper to a fine point; the margins are minutely and regularly crenate, and the undersurface, as well as the young growths, are covered with a pale brown wool. The upper side is a dark green, and much wrinkled. The plant is now an old one in English gardens, having been introduced by Messrs. Lee and Kennedy in 1774. It is a native of Chili, and the only hardy species that comes from the New

World. It has been exceptionally fine this year, but is now nearly past.

B. JAPONICA.—Whilst this is not the handsomest, it is the hardest of the *Buddleias*. It is a spreading bush, and does not appear likely to grow more than 5 feet high. The stems when young are markedly 4-angled, or even winged, and the short-stalked leaves are each 3 inches to 6 inches long and lanceolate. The flowering season extends from mid-July to September, the blossoms being crowded on a terminal, sometimes branching, panicle 6 inches to 8 inches long. Each flower is about $\frac{1}{2}$ inch in length, tubular, with four small slightly-spreading lobes at the apex. The colour is a pale lilac. Seeds are ripened in remarkable abundance, the shoots being weighed down in autumn by the heavy racemes of closely-packed, conical seed-vessels. These, or a large proportion of them, should be removed, as they tend to shorten the life of the plant. But it must in any case be renewed every few years by means of either seeds or cuttings. Some confusion has been caused by the continental growers calling this plant *B. curvifolia*—a name that belongs to a species probably not in cultivation, and a native of the East Indies.

B. J. VAR. INSIGNIS is a dwarfier, more compact, and erect-growing plant, raised from seed in France over twenty years ago. It suggests a *Veronica* in its mode of growth and inflorescence, having erect, dense racemes of rosy lilac flowers. It blossoms at the same time as the type, but is a great improvement on the ordinary *B. japonica*.

B. LINDLEYANA was originally discovered by Robert Fortune in Chusan, and he sent the first seeds of it to the Horticultural Society in 1843. Fortune was so struck with its beauty that he named it after Dr. Lindley, who was then the leading figure in horticulture. Under cultivation in this country it has not proved a great acquisition. It is not very hardy and requires a wall to grow it satisfactorily; in the open it is killed nearly or quite to the ground every winter, and I have never seen it bloom with freedom away from a wall. It bears its flowers on slender terminal spikes, each 6 inches to 8 inches long, and they are of a reddish purple colour. In the typical plant the leaves are ovate, with a long tapering point, and almost or quite entire, but there is a variety with lobed leaves. Except for gardens in the extreme south and west, or for those who can give it room on a wall, this *Buddleia* is of little value.

B. INTERMEDIA.—In 1871 Mons. Carrière, of Paris, noticed among a batch of seedlings of *B. japonica* three plants, which, when grown on, proved to be distinct and intermediate between that species and *B. Lindleyana*. The conclusion was, therefore, come to that they were hybrids between the two species, effected probably by some insect; hence the present name was given to them. This hybrid very much resembles *B. japonica*, although the leaves show the influence of *B. Lindleyana* in their shape and greater smoothness. Nor are the seed-vessels so large and heavy as in *B. japonica*. The flowers are of a greyish lilac outside and of a more violet shade within. The plant is handsome when in flower, and certainly not inferior to *B. japonica*; it blooms at the same season as that species.

B. PANICULATA (syn., *B. crispata*).—This species was originally discovered by Dr. Wallich in Kumaon, but its first introduction to the British Isles was due to Major Madden, who sent seeds gathered near Almorah, in the Western Himalayas, to Glasnevin. It has a wide distribution in North India, extending, in fact, from Afghanistan to Burmah. Growing at high altitudes, it has proved quite hardy here. A plant raised from seed sent from Afghanistan by Dr. Aitchison in 1879 is still at Kew—a rounded bush over 5 feet high. It is a very distinct plant and could scarcely be confounded with any other of these *Buddleias*. The leaves (especially beneath) and the young stems are covered with a whitish woolly substance, which gives the plant quite a character of its own. The flowers appear in dense whorls on an erect spike and are of a bright lilac colour. It

starts into growth early and is frequently injured by late frosts. It is said to flower in the Himalayas from February to May and to scent the atmosphere around with its fragrance. Here it is the earliest of the *Buddleias* to flower, and was this year blossoming in May, but it never makes a striking display.

B. VARIABILIS.—Among the specimens of new Chinese plants sent to Kew by Dr. Henry in recent years was a *Buddleia* to which Mr. W. B. Hemsley gave this name. In 1893 seeds of it were sent to M. Maurice de Vilmorin and to the Paris Museum by the Abbé Soulié. It is now spreading in cultivation, having proved to be quite a handsome species as *Buddleias* go. It is a vigorous grower, sending out shoots in one season 4 feet to 5 feet long (as much as 8 feet in France). The leaves are 6 inches long (sometimes considerably more), sharply toothed, the upper surface smooth or nearly so, the lower one covered with a close, dull white or pale brown, felt-like substance. The flowers appear in small clusters thickly set on panicles sometimes 1 foot long, that are borne at the end of the main branches and on the secondary branches that spring from the axils of the uppermost leaves. The colour appears to vary. Dr. Henry describes the flowers on wild plants as "rose, orange-coloured inside"; at Kew they have been rosy purple, and M. de Vilmorin mentions a plant with violet-coloured flowers. Probably the differences in foliage to which Mr. Hemsley's name refers are also equally present in the flowers. In habit it certainly varies. At Kew one of the plants has weakly, almost prostrate branches; whereas another is sturdy and upright. It appears to be of about the same degree of hardiness as *B. japonica*, the points of the shoots dying back in winter. It has been found in several districts in Central China, also in Eastern Thibet. It flowers during July and August.

W. J. BEAN.

GARDEN FLORA.

PLATE 1177.

THE ALPINE FOREST HEATH.

(ERICA CARNEA.)

(WITH A COLOURED PLATE.*)

As we have said more than once in THE GARDEN, this we believe to be the most useful little mountain shrub ever introduced, owing to its earliness and hardiness, which enable it every winter to be full of promise in thousands of buds, and ready to open into bright flower in the dawn of spring. Thus, last winter, owing to the mild season, it was not only in flower, but in bright, hearty flower, in January, lasting three months in that state; and though we cannot always count upon such a season, it is scarcely less useful in any season, however severe, emerging out of the snow laden with myriads of flower buds. It is also typical of the many plants in our gardens that are not made effective use of. It is not so much novelty we want as artistic and effective use of the things we know to be good and effective. Now, in many places this Heath may not be used at all in any right way, or we may here and there see a small patch on the rock-work or a worn-out small bed. Anyone who treats this plant so has no idea of its value. It is not dear, and it is also very easily increased in any soil by pulling it to pieces almost at any time throughout the

* Drawn for THE GARDEN at Gravetye Manor, Sussex, by H. G. Moon. Lithographed and printed by J. L. Goffart.



THE ALPINE FOREST HEATH

winter, or spring, or autumn. Among the best uses for it is forming an undergrowth to beds or groups of choice shrubs of Azalea, Rhododendron, Andromeda, or any like shrubs, in which way we not only get its full beauty, but, perhaps, double the blooming season of our groups or beds; also the Heath flowers with their fine rosy colour are finer in effect if we see them "broken" by other things above and about them.

There are varieties of this plant, and it is well to have a good, fine rosy variety which is not difficult to get. Lately there has been a hybrid between it and the Mediterranean Heath, which without having quite the brightness of our plant, has an almost equally pretty bloom, which in our garden lasted five months during the past winter and spring, that is to say, was in flower in December and lasted until May. At one time we used to argue that the right use of hardy flowers gave us eight months of bloom instead of the three months of the bedding plants, but with the aid of this and other winter-blooming Heaths and the early Lenten Roses, and winter and early spring flowers, eleven months is nearer the fact. At least this is true in the southern country. True, one year in seven, perhaps, we have a very hard winter and things may be delayed for a month or six weeks, but the usual result of this severity is greater beauty of the early bloom. It would be better for all our hardy things if an annual rest of six weeks or so under the snow were the rule.

THE WEEK'S WORK.

KITCHEN GARDEN.

ROUTINE WORK.—With an agreeable change in the weather the cultivator will now have an opportunity of using the hoe freely among growing crops. Weeds hitherto have been difficult to keep down, and every bit of soil will now pay for having the surface frequently loosened. With a change from cold, sunless days to heat and drought means must be taken to prevent shallow-rooting crops from flagging. Peas in light soil just in flower or podding will be benefited by mulching with short manure. I find cow manure excellent in a light soil. The same remarks are applicable to French Beans, as unless the roots receive plenty of moisture the plants become infested with red spider and fail to crop. French Beans are usually planted close; in their case it is a good plan to mulch the whole surface with straw litter. This is of great value in retaining moisture, and if the plants are given one thorough watering weekly the mulch will conserve the moisture. During July and August I have found it a good plan to water the French Beans overhead rather late in the day, as with the foliage damp during the night red spider cannot make much progress. Runner Beans as they reach the upper portion of the stakes may be topped, as this assists the plants to set the early flowers at the base, and unless the pods are needed at a later period there is no gain in allowing runners to go away to top, as the crop is more difficult to gather and the plants often suffer from want of moisture. I top at 5 feet to 6 feet, and by so doing get a heavy crop, which may be gathered with ease. In gardens near towns this mode of culture is a great saving of stakes. Runner Beans sown late and not staked should have a few short stakes or be pinched at

15 inches from the soil, frequently topping the later growths. The early plants of Brussels Sprouts will now benefit by being moulded up. Cabbage quarters should be cleared as soon as cut over and a different crop planted. I find Celery follows the early Cabbage well, and the soil thrown out of the trenches will be useful for a quick crop, such as Lettuce, when the ridges are finished. There is a great saving of time in making the Celery trenches some little time before planting. Late-sown Celery should be kept well watered; a thorough moistening overhead late in the day will make a sturdy, clean plant.

TOMATOES IN THE OPEN.—Many can grow a few plants of Tomatoes against a south wall. The plants will now be setting freely if grown specially for early fruiting, as, though the progress made earlier in the summer was slow, I note the fruits have set well. With plants at the stage named I would advise feeding. Many give manure at planting, but it is not well to do so, as growth is too robust. I mulch with spent Mushroom manure. This is light and retains moisture, and if other food is needed, nothing is better than liquid from stables. In training avoid crowding. So far I have never seen any better mode of culture than training in cordon fashion, one or several leads according to the strength of the plants. Foliage may be reduced, but I am not in favour of crippling the plants, as it stands to reason plants divested of all their leaves cannot make progress. Close stopping of side shoots will be necessary, and plants in the open trained to stakes will need attention. Here one main growth is ample, as the season is short in which the fruits have to set and ripen. A little closer stopping of foliage with strong growers is admissible. The growths should be kept close to the stakes to allow the fruits to get light and sun.

VEGETABLE MARROWS.—The plants are now growing after a long spell of cold weather, and there is often a tendency to gross growth and fruits are few in such seasons if the plants are growing in rich soil. I would advise closer attention to stopping, not allowing the plants to become crowded. Much better results are secured from plants not given much manure at the start, as a sturdier growth will give a greater quantity of fruits. Marrows will now pay for feeding, and if in rows it is a good plan to mulch between these with short litter, liberal supplies of liquid manure also greatly benefiting the plants. In many gardens the fruits are left much too long on the plants. They are much best cut in a small state before seeds form, as then others set. In dry soils after a hot day I have found watering overhead late in the day of great benefit. A late lot of plants sown specially for the purpose will be useful. I plant these rather close, stop hard, and at the approach of frost in the early autumn give a night covering, and by so doing get much later supplies.

SAVOYS.—The Savoy crop is more useful in mid-winter than in the autumn, as at this latter date there is a wealth of green vegetables. I advised sowing later than usual to get the crop at the latest period possible. Early Savoys as regards quality are not equal to good Coleworts; so those who have plenty of the latter may with advantage make the Savoy a succession crop. Now is a good time to plant Savoys in quantity for early heads from October to Christmas. The Early Dwarf Elm, Dwarf Green Curled, and Tom Thumb are all good and make a rapid growth. They may be planted in rows 15 inches apart and only half that distance in the row. For late use the well-known Drumhead is still one of the best, but it needs double the space advised for the small earlier kinds. Last year I grew an intermediate variety and found it much liked. This was Sutton's Perfection, a very compact grower. New Year, a new variety, is a very large Savoy and may be had quite sound well into March. This variety does not split in bad weather like the older Drumhead. If a late small Savoy is wished for, Bijou is an excellent variety and very late. In planting it will be found advisable to draw drills in light soils, as this lightens the

labour when water is needed in the early stages of growth. Savoys for late use do well planted on north or east borders. S. M.

FRUITS UNDER GLASS.

PEACHES AND NECTARINES UNDER GLASS.—Those trees from which the crop has now been gathered should receive every attention just as much as if such were not the case. There ought not to be any relaxation of effort to keep the trees in the best possible condition. Immediately the crop is gathered, a thorough watering will in most cases be needed, as in all probability it will not have been done, nor should it be, in extensive borders just at the finishing period. In conjunction with the watering, also note the condition of the trees as regards their vigour of growth or otherwise. If disposed to grow too strongly, do not now manure them so as to excite the growth still more. If in good condition, with a full or heavy crop taken from them, the growth should not be excessive, in which case an application of a well-proven artificial manure will be of decided advantage. It will restore to the soil that needful food wherewith to build up the trees for another season's fruiting. In my own case I shall apply a moderate dressing of Dickson's manure, which, as already stated, has been proved to be well suited to the soil, being of marked benefit to weakly trees in particular. This will be watered in, after which no more manure of any kind will be applied this season. If the borders for good reasons have been mulched to assist the crops and to prevent excessive evaporation, look well to it that these do not suffer from drought, for under a genial-looking surface the border may be dust-dry even, and if this be the case, the very first stone is laid towards bud-dropping another spring. Give all the ventilation possible now to these houses, never closing them even for the sake of other plants that may be in them if it can possibly be avoided. If insects have been troublesome, lose no time in applying strong measures for their destruction. If it be aphids (either green or black), fumigate with XL All, than which there is nothing better or safer. If it be red spider, syringe well with sulphur and water well mixed. With this, syringe the trees and all woodwork, and the glass, too, after which leave the house as it is for a week or so, then if more are still to be seen repeat the application, and after another interval in all probability the spider will not give any more trouble. Scale in some cases is troublesome, and if it be present in only small numbers give just as much attention now, otherwise by the autumn it will have increased amazingly. Either a moderate dose of carbolic soft soap or one of Gishurst Compound brushed in upon the old wood or syringed on the trees should prove efficacious. If not, apply a stronger dose of the same compounds. In dealing with the mealy bug, which one at times comes into contact with around the base of good fruits even upon exhibition tables when critically inspecting the specimens, strong measures should be taken to prevent any increase. If this plant pest can be stopped in its onward career now it will be all the better. All the crevices of the old wood should be carefully looked into for young broods, using a strong solution of a well proven insecticide mixed in hot water, which may be safely used up to 130° or 140° Fahr., keeping it at these temperatures by means of a spirit lamp such as that now used in evaporating liquids. Half of the insecticides used are rendered ineffective or partially so, be it noted, by being applied in too cool a condition. Syringe the trees if the bug be spread very much upon them, shading afterwards for a day or two, even when the precaution is taken, as it should be upon such tender foliage, of washing off partially, so as to dilute the compound half an hour or so after application. In conclusion, it only remains to be said that any measures now taken against insect pests must be to the good of the trees for another season, for unless the foliage be retained in good condition

until it has accomplished its work, the fruit-buds cannot, as a matter of course, be so thoroughly well developed; hence not so fully prepared for as early, or perhaps an earlier start another year. Healthy foliage this year means, speaking generally, healthy flowers another year with due attention meanwhile. A partial thinning out of the wood where it is at all disposed to be overcrowded had better be attended to now rather than later on. There is no reason why so much of this work should be left until the autumn or winter pruning. If done now to a moderate extent, more light will be admitted to the trees and more air will circulate round the branches; hence the wood will be better ripened. One has, of course, to guard against late growths as much as possible; therefore any severe amount of thinning may, in the case of vigorous trees, have that tendency; such, for instance, as young trees which are oftentimes very active in making secondary growths. Use caution in dealing with all such as these. Trees that have fully covered their allotted space can be operated upon with safety. These and others which are making lateral growths or breastwood had better be gone over frequently, nipping the shoots whilst still young and tender. For this purpose the finger and thumb may oftentimes be used with more dispatch and to better purpose than the knife. No such wood as this, which one knows must eventually be removed, should be countenanced, and if its removal be persisted in for a few weeks the tree will go to rest all the sooner. Look after any ties also that may, by the swelling of the wood, have become tightened, otherwise these will, if of string or yarn, cut the bark and cause an over-growth or injury from pressure against the wire. Where injury has been done by galvanised wire in past seasons, it should be instructive to watch as to when such injury really occurs.

FRUITING TREES.—Houses in which the trees are now fruiting should be kept moderately cool in any case; even then, relatively speaking, the temperature will average that of the earlier houses. A free circulation of air will add to both flavour and colour, whilst at the same time it will not encourage insect pests so much, unless it be the red spider, for which the syringe at this juncture, with clean water only, is a good remedy. Fire-heat is scarcely needed now in any case. Even if a house has to be hastened on, it is better to keep it a little closer than to depend on artificial warmth, which I have often noted is not so beneficial. Where the fruit is ripe ventilate freely, and continue to shade if need be so as to retard the fruit, removing all such shading immediately the fruit is picked. As in houses where the crop is all taken off, so here look to the due thinning of the wood so as not to shade the fruit and thus prevent it from attaining its full colour. As soon as Peaches show signs of colouring cease to syringe the trees. Nectarines, on the other hand, by reason of their smooth skin, do not retain the moisture; hence these may, if occasion requires it, be syringed a few times later than in the case of Peaches. See, however, that they are quite dry by nightfall. Watering will need regular and close attention whether the borders be inside or out, or partly both. In the latter case take care that the inside roots do not become drier than those outside, or the latter will assuredly make most headway. Give water freely when its need is apparent, and guard against too frequent applications by mulchings upon shallow borders. Continue to feed those trees artificially that are bearing heavy crops of fruit. For present use a quick-acting manure is the better one to use, such as one in which granulated blood is used as a component part. There is time of course in the case of the latest crops to assist in the perfecting of the stones, in which case use manure in which bone-meal or its equivalent prevails to a

large extent. If the latest trees are seen to be carrying too heavy crops through the stoning process, relieve them of the smallest fruits or those badly placed. So long as there is a fair margin over the usual crop carried by any tree there need not be much fear. In houses newly planted the growth is as a matter of course the primary consideration. In the first place see that the aphides do not injure the points of the young shoots and thus partially arrest the growth or divert it into other channels. I am no believer in the old-fashioned idea of not encouraging lateral wood on young trees. Get all the trellis covered, and that as quickly as possible, is the advice now given. So long as the lateral shoots are not at the back of the trellis or foreright ones, lay them in and regulate their growth so as to well balance the tree all over by pinching the leading shoots as occasion may require. If more of this encouragement were given we should hear far less of canker and its attendant evils. If the borders be well made at the outset with good material there will not be any occasion to feed these young trees.

flowers set in long calyces that showed no sign of bursting. Altogether I think it the most promising yellow variety I have ever seen, and predict for it a great future among those who are content with Carnations less in size than the *Mil-maison*.—J. C. T.

STOVE AND GREENHOUSE.

POSOQUERIA LONGIFLORA.

THE accompanying illustration represents a fine old evergreen stove shrub, *Posoqueria longiflora*, now seldom seen. This, I think, is to be regretted, for when in bloom it is a handsome plant with its fine trusses of long white tubular flowers, the perfume of which fills the house in which it is grown. Some of the trusses bear as many as thirty individual flowers. Last year the plant figured, produced



Posoqueria longiflora. From a photograph sent by Mr. J. C. Easter, Nostell Priory, Wakefield, Yorks.

It would, on the other hand, be a mistake to do so. Nor should the borders, where made-up ones, be added to too quickly, but rather let the soil they have at present be well filled with roots than add fresh for them to run off into at the earliest opportunity. Guard specially against tight ties or shreds, as the case may be, in all young trees. It is better to use raffia for all such than string, and brown paper shreds would be better than either cloth or leather ones. **HORTUS.**

Carnation Primrose Queen.—This excellent Carnation, as seen at the Temple show, appears to have a better constitution than that of most yellow varieties. The plants shown were big and healthy, with plenty of wiry-looking grass, that promised well for the propagation, and a good crop of medium-sized, shapely, soft yellow

sixty-two fine trusses. Unfortunately, when any of these are cut they last but a short time, but the individual flowers I have had in water quite fresh for ten days. This is the best way of utilising these charmingly sweet-scented flowers. **J. EASTER.**

Nostell Priory Gardens.

NOTES AND QUESTIONS.—STOVE.

Carnations diseased.—Can you tell me what the disease is on the Carnation leaves I send you and the best remedy?—J. L.

*** Red spider will cause the leaves to go as in the specimens sent, but it is more frequently caused by bad root action, owing to the plants being grown in unsuitable soil, or soil that has become sour through bad drainage. Red spider can be syringed off, and

the state of the roots should be examined. There is no fungoid disease.—ED.

Double Begonias.—So far as relates to the large-flowered doubles, it is worthy of note that the densely crowded flowers are getting out of favour, and those having large, broad, flattish or tiell-like petals after the form of *Camellias* and *Rhæas* are most sought for. But it will be a long some ere we shall see on these, stems stout enough to keep the massive flowers erect. How different it is with that intensely scarlet-flowered small double variety *Lafayette*, the blooms of which are perfectly erect.—A. D.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

JUNE 28.

THIS meeting, as far as exhibits were concerned, was one of the best that has been held, the hall being quite filled with flowers of different kinds, those from the open air, including chiefly *Pæonies* and *Delphiniums*, being in the majority. *Roses*, too, were also largely shown. The *Malmaison Carnations* also added to the interest of the meeting, the groups of these being excellent in every way. *Orchids*, too, though not so numerous as on recent occasions, made up for this in the quality of the flowers. *Fruit* and *Tomatoes* were also well shown.

Orchid Committee.

First-class certificates were awarded to the following:—

STANHOPEA RODIGASIANA.—A distinct and quaint species. In this the petals are pale yellow, each about 5 inches in length, the lower sepals similar in length, nearly 3 inches wide, the interior yellow, thickly spotted on the lower half with large rich brown spots, the upper sepals narrower and not so heavily spotted as the lower sepals. The exterior is yellow, covered from the apex downwards with light brown spots. From Sir T. Lawrence, Burford Lodge, Dorking.

CYPRIPEDIUM L'ANSONI (C. Rothschildianum × C. Morganie).—This is a distinct and lovely secondary hybrid, the dorsal sepal pale greenish white, longitudinally lined with rich dark purple; the petals each about 6 inches in length, greenish white, thickly covered with dark brown blotches and spots; the large lower sepals white lined with dark brown, the lip greenish white suffused with purple. A plant carrying a three-flowered raceme came from Messrs. H. Low and Co., in whose nurseries it was raised by Mr. G. P'Anson.

CYPRIPEDIUM MRS. REGINALD YOUNG (C. Lowi × C. Sanderianum).—In this the dorsal sepal is bright yellow suffused with rich purple at the base and having prominent purple lines. The lower sepal is similar in colour, the petals greenish white at the base, suffused with brownish purple at the apex, the basal half thickly covered with large brown spots; the lip is deep purple-brown, veined with a darker shade of colour. It has the intermediate characters of both parents. From Messrs. H. Low and Co.

Awards of merit were given to the following:—

CATTLEYA ADELA (C. Trianae × C. Percivaliana).—This is a distinct and pretty hybrid, having the intermediate form of both parents. The sepals and petals are of fine form and substance, rich rosy lilac, the lip rose-purple, suffused and veined with a darker shade of colour, the side lobes deep purple, suffused with yellow and brown at the base. A small plant with one flower came from Messrs. J. Veitch and Sons, Chelsea.

LÆLIO-CATTLEYA CANHAMIANA VAR. *JOYCE WIGAN*.—This is a distinct and lovely form, the sepals and petals delicate rose, suffused slightly at the margin with a darker shade of colour, the large lip rose-purple, shading to crimson-purple, veined with a darker shade, the side lobes purple, with some yellow and brown at the base. This

lovely form, carrying a raceme of three flowers, came from the collection of Sir F. Wigan.

Messrs. J. Veitch and Sons sent an interesting group, prominent in which were several fine forms of *Cattleya Warscewiczii* (C. gigas), C. Mendeli, C. Mossiæ, and good varieties of C. Warneri. Among the hybrids was the new *Cattleya Gert-rude* (C. superba × C. Mossiæ), with the intermediate characters of the two parents both in growth and flower. The sepals and petals are delicate rose, the open lip having a rose-coloured ground, suffused with rose-purple, and veined with a darker shade of purple. Several forms of *Lælio Cattleya Canhamiana*, a distinct form of L.-C. *Eudora* with deep purple lines through the throat, *Lælia purpurata*, and L. *tenebrosa* were also well represented. *Epiphronitis Veitchi* with four spikes of flower, a large specimen of *Dendrobium Dearei*, *Epidendrum vitellinum majus*, *Cypripedium Veitchi*, *Masdevallia ignea*, *Phalenopsis Ludde-violeacea* with three of its rich rose-mottled flowers, several good forms of *Odontoglossum crispum*, O. *Pescatorei*, O. *excellens*, good forms of *Sobralia macrantha*, *Disa kewensis*, *Oncidiums* in variety, and *Cattleya Harold* var. *Clarissa* (gigas × *Gaskelliana*) were also included. A silver Flora medal was awarded. Messrs. Hugh Low and Co., Bush Hill Nurseries, Enfield, sent a large group, in which were some large, finely-flowered specimens of *Cattleya Mossiæ* in variety. Grand forms of C. Mendeli, several dark forms of *Lælia tenebrosa*, a fine variety of *Epidendrum prismatocarpum* with four spikes of flower, *Oncidium crispum* and O. *macranthum* in variety were also well represented. Prominent among the *Cypripediums* was the beautiful C. *Lawrenceanum Hyea-num* with two flowers. Several good forms of C. *Curtisi*, C. *ciliolare*, and other interesting species and hybrids were also shown. A silver Flora medal was awarded. Messrs. Stanley Mobbs and Ashton sent a neat group, consisting principally of finely flowered forms of *Cattleya Mossiæ*, including C. M. *Reineckiana* with four flowers. They also sent several grand forms of C. Mendeli, C. Warneri, *Lælia tenebrosa* in variety, and good forms of L. *purpurata*. Prominent among the *Odontoglossums* were good forms of O. *crispum*. *Miltonia vexillaria* was also well represented. A fine form of *Mormodes pardinum* and good varieties of *Epidendrum vitellinum majus*, *Lycastes*, *Oncidiums*, and *Dendrobiums* in variety were also included. *Stanhopea tigrina* var. *Ashtoni* is a very large variety, the flowers each 8 inches across. A silver Banksian medal was awarded. Messrs. B. S. Williams and Son sent a choice group. In the back row were several finely-flowered *Thunia Marshalliana*, *Lælia tenebrosa*, and a grand specimen *Aerides expansum* with two spikes of flower. There were also several pretty forms of *Cattleya Mossiæ*, C. *intermedia*, and *Lælio-Cattleya Canhamiana*. *Cattleya Breauteana* (C. Loddigesi × C. superba) has bright rose-purple sepals and petals of fine substance, the lip rich crimson-purple in front, white in the centre, with some yellow in the throat. *Pescatorea Lehmanni*, *Cypripedium Lebaudianum*, *Cochlioda Noëziana*, *Odontoglossum crispum*, and other interesting *Orchids* in variety were also noted. A silver Banksian medal was awarded.

Sir T. Lawrence sent *Masdevallia Barleana*, a distinct and pretty form, with rich purple and orange-yellow flowers; *Habenaria rhodochilon* with green and orange-scarlet flowers, four forms of *Lælia tenebrosa*, a good form of *Cattleya Warscewiczii* with seven flowers on the spike, *Odontoglossum excellens* var. *Sanderae*, a light form, with unusually large flowers; and *Macrostylis bella* with two spikes of dark purple flowers. Mr. F. P. White, Twyford, sent *Cattleya guttata* Leopoldi with thirty-two flowers on the spike. Sir F. Wigan sent *Sobralia Wiganæ*, a natural hybrid in the way of S. *Amesæ*; *Sobralia Veitchi aurea*, a lovely yellow form; and S. *xantholeuca*. From Mr. De B. Crawshaw came *Odontoglossum excellens* Mrs. De B. Crawshaw, a yellow and deep brown blotched variety favouring

O. *triumphans*, and a lovely dark form of *Cattleya Mendeli* named after himself. Mr. W. Gillett, Fair Oak, Bishopstoke, sent a dark form of *Lælia purpurata* with six flowers on the spike. Mr. Leopold de Rothschild showed *Mormodes pardinum unicolor*, and from Mr. T. W. Swinburne came two large flowers of *Sophronitis grandiflora*. The Rev. E. Handley, Bath, sent *Cattleya Mossiæ* Wagneri with two flowers, and Mr. F. W. Moore, Glasnevin, showed three very interesting and beautiful forms of *Masdevallia Chimæra*.

Floral Committee.

The following plants obtained first-class certificates:—

CAMPANULA MIRABILIS.—A distinct and striking species, producing a more or less pyramidal panicle of pale blue erect cups in great profusion. A marked feature of the plant is the fleshy, shining, slightly toothed leaves, which before throwing up the flower-spike form a perfectly flat rosette close upon the earth. It is possible it will prove biennial in character and in size be much larger generally than the plant exhibited. From Messrs. G. Jackman and Sons, Woking.

LILIUM MARHAN.—A hybrid Lily of great promise, the parents being L. *Hansoni* and L. *Martagon* var., probably *dalmaticum*. In the time of flowering, together with size of blossom, form and other characteristics, there is a marked presence of L. *Hansoni*, with the decided fragrance of L. *Martagon* var. The colour is a brownish bronze overlying yellow, and freely spotted with dark spots. From C. G. van Tubergen, Haarlem, Holland.

The following received awards of merit:—

NASTURTIIUM QUEEN OF TOM THUMBS.—As shown this is very dwarf and compact, with flowers of a deep crimson-brown. The foliage is freely variegated. From Messrs. Watkins and Simpson, Long Acre.

DIGITALIS PURPUREA GRANDIFLORA.—This strain is remarkable for the boldness of its spikes, the size of its blossoms, and the markings on the same. From Messrs. Jas. Veitch and Sons, Chelsea.

PHILADELPHUS LEMOINÉ.—A pretty shrub covered with a wonderful profusion of snow-white and fragrant blossoms, every twig being laden with flowers. From Messrs. Barr and Sons, Covent Garden.

BEGONIA FLORENCE NIGHTINGALE.—This is a really marvellous flower even as tuberous *Begonias* go, the blooms of the purest snow-white, of great size and well formed. Some of the handsome double flowers were more than 5 inches across, besides which it is quite dwarf and very free. From Mr. B. R. Davis, Yeovil, Somerset.

BEGONIA THUNDERER.—A massive crimson-scarlet, the flowers almost as large as those of a *Pæony*, very full and well built to the centre. The habit was very dwarf and free in all the plants shown. From Mr. B. R. Davis, Yeovil, Somerset.

GAILLARDIA W. B. CHILD.—A large and handsome variety with self-coloured flowers of a chrome-yellow shade. From Messrs. Kelway and Sons, Langport.

LUPINUS POLYPHYLLUS SOMERSET.—In this kind we have, as it were, the yellow spike of L. *arboreus* transferred to a herbaceous kind, viz., L. *polyphyllus*, which should render it of much value in the garden. The pretty soft yellow is particularly telling. From Messrs. Kelway and Sons, Langport.

IRIS JUNCEA NUMIDICA.—A lovely pale yellow variety of I. *junceæ* (the Rush-leaved Iris), a bulbous species belonging to the *Xiphium* group. The kind now referred to is a dainty and pleasing variety that cannot fail to be welcome. From Messrs. R. Wallace and Co., Colchester.

ROSE UNA.—A hybrid between R. *canina* and R. *indica*, resulting in a large and handsome single white kind, each flower 4 inches across, quite pure when expanded, but having a creamy tint on opening. A single shoot of this new hybrid, the first of its race, measured just 25 feet

long, and as a climber it will doubtless prove of great value. From Messrs. Paul and Son, The Old Nurseries, Cheshunt.

ROSE REV. ALAN CHEALES.—An H.P. kind with large, handsome blossoms of a lively rose shade and silvery reverse. The flowers are very full and delightfully fragrant. From Messrs. Paul and Son, Old Nurseries, Cheshunt.

HEDYSARUM MULTIJUGUM.—An old-fashioned and well-known plant, producing a profusion of purple Pea-shaped blossoms during spring and autumn. A coloured plate of this was given in THE GARDEN, May 14, 1898, p. 408. From Sir Trevor Lawrence, Dorking (gardener, Mr. Bain).

GLADIOLUS QUEEN OF ROSES.—This is one of the dwarf early-flowering class (*G. nanus*), of which Blushing Bride and Salmon Queen are representatives. The above has flowers of an exquisite and delicate pink, almost flesh-pink, very beautiful and pleasing. From Messrs. Sutton and Sons, Reading.

CARNATION MRS. DE SATGE.—Scarlet; very full and of good colour.

CARNATION LORD WELBY.—Scarlet of a somewhat lighter shade; very handsome.

CARNATION MARGOT.—Pinkish scarlet, somewhat in the way of Princess May; excellent in form.

CARNATION BALDWIN.—Salmon-rose; a very handsome flower. All of the above Carnations came from Mr. Martin Smith, Hayes, Kent.

One of the leading features of the exhibition was a splendid group from Lord Aldenham, Elstree (gardener, Mr. E. Beckett), which extended half-way down one side of the hall. The group was admirably arranged without crowding of any kind, prominent positions being accorded to handsome *Kentias*, *Areca lutescens*, &c., which threw a canopy, so to speak, over the other plants, which comprised various *Crotons*, beautifully coloured, many *Dracenas*, *Malmaison* Carnations, *Crassula coccinea*, *Odontoglossum crispum*, *Gloxinias*, such *Liliums* as *longiflorum*, *speciosum rubrum* and *Kratzeri*, *Tuberoses*, yellow Carnations, *Asparagus*, *Gladiolus* The Bride, with *Ferns*, *Panicums* and *Isolepis*, the latter employed as a fringe to a very telling arrangement, for which a silver-gilt *Flora* medal was awarded. The *Roses* from Messrs. Wm. Paul and Son, Waltham Cross, were a most representative gathering, containing nearly 100 varieties, and embracing almost all sections of the flower. Dwarf bush plants, standards, and endless examples in a cut state were shown, many in large groups in baskets that proved very effective. A few of the best were *Narcisse*, pale cream yellow and white; *Mme. Falcot*, the lovely hybrid *Tea Caroline Testout*, Wm. Allen Richardson, Marie Lavallée (*Tea*), a lovely pale pink; *Empress Alexandra* of Russia, perhaps the most prominent by reason of its size and colour, a lovely bronze-salmon tone; *Enchantress*, *Souvenir de Catherine Guillot*, coppery salmon, very charming, quite a novel shade among *Teas*; *Antoine Rivoire*, *Queen Mab* (*China*), deep salmony orange, a most lovely shade; together with many singles, *Mosses*, *Polyantha* kinds, &c.—a truly sumptuous lot of these beautiful flowers (silver Banksian medal). Some ten varieties of hybrid *Water Lilies* from Mr. Leopold de Rothschild, Gunnersbury House, Acton (gardener, Mr. Jas. Hudson), attracted much notice. These included *Marliacea rosea*, *M. albida*, *M. Chromatella*, one of the most useful and beautiful of all; *M. carnea*, *Laydekeri* lilacea, *Ellisiana*, crimson, rich in colour and beautiful in form; stellata, blue, &c. These were grouped in a shallow vessel of water, thus keeping perfectly fresh throughout the meeting (silver Banksian medal).

A group of *Adiantums* representing some ninety species and varieties came from Mr. H. B. May, Edmonton, and constituted a most instructive lot. It is not possible to enumerate or describe so representative a collection. *A. Hemsleyanum* is certainly among the most graceful and elegant, and *Lambertianum* has the most minute pinnae of all, considerably smaller than in *gracillimum*. *A. Veitchi* is very striking in the young fronds, and

withal a handsome kind. *A. Forearum* has a silvery sheen over the mature fronds and a red-bronze tone in the young pinnae which render it attractive. *A. fulvum* is all its name implies; while *reniforme asarifolium* has the broad foliage of the latter plant very strongly suggested. *A. Capillus-veneris imbricatum*, with its densely set fronds overlapping each other, is very distinct. A silver-gilt Banksian medal was awarded. *Begonias* were well represented, Mr. B. R. Davis, Yeovil, Somerset, bringing a splendidly grown lot of plants of very dwarf habit and bearing a profusion of giant blossoms in rich and telling shades and much variety—*Venus*, pure white; Wm. Allen Richardson, orange; Mrs. Stothbert, soft yellow; Trafalgar, orange blossoms; Clio, yellow goffered petals; and Orion, brilliant scarlet, enormous double flowers, being among the most conspicuous in this finely-grown lot of plants (silver Banksian medal). The other group, from Messrs. Cannell and Sons, of Swanley, contained many fine things, such as *Lady Linddale*, orange; *The Lady*, white; Paul Hardy, crimson; Jean Sisley, deep crimson; and Brilliant, intense velvety crimson (bronze Banksian medal). Carnations in pots, largely of the *Malmaison* section, were as strongly represented as we usually see them at the Temple show. The large semi-circular group of the pink variety shown by the Marquis of Salisbury, Hatfield (gardener, Mr. George Norman), was as fine as it is possible to be, more especially as the plants were bearing a maximum of flowers, and that quite small plants in 6-inch pots carried an average of four handsome blossoms. Some idea may be gathered of the display of bloom when it is stated there were some 200 of these plants, with something like a total of 1000 of these noble flowers. Such groups as this demonstrate that freedom of flowering may be—indeed, is—secured without the use of huge pots and much soil, which may after all too much favour gross growth at the expense of flowers. The group from Hatfield was a highly creditable lot, well deserving the silver *Flora* medal awarded. Another group, in which greater variety prevailed, the plants arranged in undulating banks usually of one colour and kind, came from Messrs. Cutbush and Sons, Highgate. Here also the small pot system prevails, though in many instances disbudding had been resorted to, the blossoms being larger and less numerous than in the last instance. Many beautiful varieties were in this group, such as *Princess May*, *Churchwarden* (crimson), *Prime Minister* (scarlet), *Princess of Wales*, *Mme. Adelina Patti*, fine pink, with a large batch of the old *Blush* kind. A few border kinds were also included, an especially good form being *Andrew Noble*, a reddish salmon (silver *Flora* medal). Another group of *Malmaisons* was made up entirely of novelties by Mr. Martin R. Smith, Hayes, Kent (gardener, Mr. Blick). Some of the best are noted elsewhere, but other good kinds are *The Geisha*, salmon-rose; *Trumpeter*, crimson-scarlet; *Nautilus*, white; *Juliette*, scarlet-rose; Mrs. Torrens, fine deep pink; *Calypso*, bluish, very fine; while a yellow border kind, *Cecilia*, in the background was little, if any, inferior in point of size to many of the *Malmaison* kinds. A silver-gilt Banksian medal was awarded. Messrs. Peed and Sons, Roupell Park, likewise contributed Carnations, mostly border kinds, grown in pots—*R. H. Measures*, scarlet; *Primrose Queen*, J. W. Christmas, reddish pink; *Rosamond*, salmon-scarlet; *Miss Measures*, crimson-scarlet, being among the best. These, with a margin of pink *Malmaisons*, were still further bordered by *Anthericum lineare variegatum* (silver Banksian medal). Mr. F. G. Foster, Brockhampton, Hants, had a fine assortment of *Sweet Peas* in many beautiful shades disposed in a very pleasing manner—*Countess of Aberdeen*, flesh; *Meteor*, rosy salmon and bronze; *Peach Blossom*, *Queen Victoria*, yellowish white; *Celestial*, *Lady Nina Balfour*, soft mauve; *Black Knight* and *Countess of Radnor*, rosy mauve, being among the best (bronze Banksian medal). A small batch of *Phenocoma prolifer* *Barnesi*, more naturally grown than is

usually seen, from Messrs. Balchin and Sons, Hassocks, displayed the value of such well-grown plants, and the finely-flowered heads were most attractive.

Hardy flowers, as at the previous meeting, held the place of honour on this occasion, not merely in point of numbers, but in quality also. The *Pæonies* and *Delphiniums* from Messrs. Kelway, Langport, were excellent in every way, the best of the former being *Dai*, pink-blush; *Ganymede*, crimson, centre tipped gold; *Olivia*, pure white; *Chiron*, crimson; *Miss Salway*, creamy white; and *Visticus*, pure white, double; while of *Delphiniums*, *Primrose* and *Beauty of Langport* represent all that exists of so-called white kinds, though we feel constrained to confess the shade of colour is a little out of place among these nobly showy flowers. Among the blues, *True Blue*, *King of Delphiniums*, azure-blue, immense white centre; *Dagonet*, dark purple-violet; *Alfred Henderson*, *Ardite*, and *Imperial Majesty*, rich purple-violet, were the finest. Other plants shown were *Gaillardias* in variety, *Centaurea macrocephala*, *Inula glandulosa*, *Phlomis Russelliana* with whorls of yellow and white flowers, several *Eryngiums*, double white *Rocket*, *Campanula persicifolia maxima* and its variety *alba*, both in splendid condition and very showy (silver *Flora* medal). Messrs. Jas. Veitch and Sons showed herbaceous *Pæonies*, in bold effective masses for the most part. Some of the leading sorts were *Pottsi superba*, crimson-lake; *grandiflora rosea*, *Emilie Lemoine*, white, slight crimson flake; *Duchesse de Nemours*, white; *Leda*, rosy pink; *delicatissima*, pink; and *Carnea triumphans*, &c. Then in *Delphiniums* we noted *Bach*, *Lucifer*, the lovely sky-blue *Belladonna*, *Keteleeri*, an old though showy kind; *Princess of Wales*, azure-blue; *Lord Balfour*, violet-purple, &c. These were margined with flowering branches of *Tropeolum polyphyllum*. At one end of the table, which extended the full length of the centre space, a host of annuals and biennials was arranged—such things as *Sweet Peas* in variety in all the best kinds, together with *Wallflowers*, *Stocks*, *Sweet Sultan*, *Carnation Grenadin*, *Rhodanthe*, *Clintonia elegans*, with its blue and white flowers, *Schizanthus retusus* and its variety *albus* also being abundantly shown. Then in the centre were vases of annuals, such as the white *Schizanthus*, many grasses, *Sweet Peas* and the like, that made a very pleasing array. The same firm set up a fine lot of *Campanula Medium calycanthema*, the whole of the plants splendidly grown and branched with a freedom but rarely attained in pots. The plants were all grown in 8-inch pots, and grandly flowered throughout. The size of the flowers individually was alone a feature. The firm brought also the usual complement of rare flowering shrubs, among which *Magnolia Watsoni* was very fine. Other things included *Indigofera decora alba*, a most graceful thing; *Styrax japonica*, white, abundantly flowered; *Philadelphus coronatus erectus* and *Escallonia langleyensis*, a red-flowered kind, very profuse (silver *Flora* medal). From Colchester, Messrs. R. Wallace and Co. sent a lovely lot of hardy bulbous things that included *Liliums* in plenty, notably the lovely new kind *L. rubellum*; also *L. Hansoni*, *L. Szovitzianum*, *L. tenuifolium*, *L. pomponium verum*, *L. pardalinum*, *L. Dalhansoni* (a handsome hybrid), *L. Henryi*, together with a large assortment of the forms of *L. Thunbergianum* and the more stately and massive flowers of *L. platyphyllum*, *L. rubro-vittatum*, *L. Wittei*, with three of its superb white, spotless flowers only relieved by a chrome-yellow band in the centre of each petal. Besides these were many *Brodiaeas*, various *Calochorti*, *Ixias* in variety, *Hemerocallis aurantiaca major*, English and Spanish *Irises*, *Iris gigantea*, *I. Monnieri*, and the lovely bulbous *Iris I. juncea* (silver Banksian medal). The Messrs. Barr and Sons likewise had one of their usual displays of hardy things, among which *Pæonies* largely figured, also *Irises* of several sections, such as English and Spanish, and the distinct *Iris Monspur* and varieties, which are very beautiful and distinct. This exhibit also con-

tained such things as *Papaver nudicaule*, several Sea Hollies, Pink Her Majesty, very fine *Lupinus arboreus*, *Ornithogalum pyramidale*, *Inula glanulosa*, *Dictamnus* of sorts, *Ranunculus asiaticus* in variety, &c. (silver Banksian medal). Messrs. Paul and Son, The Old Nurseries, Cheshunt, also staged a splendid lot of herbaceous *Pæonies* and *Delphiniums* in all the leading kinds in both instances, together with many vases of the new single Rose Royal Scarlet in the bud state (silver Banksian medal). Another group of hardy flowers from Messrs. Geo. Jackman and Sons, Woking, contained many *Campanulas*, *Delphiniums* in variety, Sweet Peas, *Pyrethrums*, *Heuchera*, *Lychnis Haageana*, some *Eryngiums*, double yellow Bachelor's Buttons, *Sidalcea malvaeflora*, &c. (bronze Banksian medal).

Fruit Committee.

The exhibits before this committee, though not numerous, made up by their splendid quality. A first-class certificate was given to—

PEACH THOMAS RIVERS.—It is a very beautiful fruit, large, and of a splendid colour, skin pale mottled pink, with very little green, the flesh of great thickness and juicy. It is a splendid addition to this class of fruit. The fruits shown were from pot trees started on December 20.

Mr. Gleeson, Warren House Gardens, Stanmore, staged nine Queen Pine-apples, splendid fruits and with very small crowns. One was shown as a new variety, but the committee could detect no difference. A silver-gilt Knightian medal was awarded. Mr. Hudson, Gunnersbury House Gardens, Acton, sent a large quantity of Tomatoes, and Cherries Early Rivers and Bigarreau de Schreken. The Tomatoes were in six varieties. The fruits were tested for flavour, and Royal Jubilee was considered excellent, Golden Nugget and Sutton's Dessert being of equal merit as regards quality. The other varieties were Abundance, a beautiful fruit, Peach Blow, and Best of All, the last named a medium-sized fruit of great excellence. We do not care for the colour of Peach Blow, though it does not lack flavour. A silver-gilt Banksian medal was awarded. Some excellent Tomatoes were sent by Mr. Rolfe, Stamford-le-Hope, Essex, the flavour being liked and the fruits very shapely. These were named Rolfe's Challenge. The committee had an excellent opinion of their quality, but as plants are growing at Chiswick, they wished to see the cropping qualities before giving any decision as to their merits. Messrs. Veitch and Sons, Ltd., Royal Exotic Nursery, Chelsea, sent baskets of Cherries Guigne d'Annonay from pyramid trees in the open. This variety was stated to be some days earlier than the Early Rivers, and it appears to be very prolific, the fruits, of a dark red colour, being in large clusters. Royal Sovereign Strawberries gathered from the open ground, from plants layered last July, were staged by Mr. Wythes, Syon House Gardens, Brentford, to show the advantages of growing the Strawberry as an annual, as the fruits are earlier, finer, and of excellent quality. A very good seedling Melon was sent by a Mr. W. Coates, but there was no address. Unfortunately, the fruit was not ripe, but the committee desired it to be sent again. A new seedling Pea, Early Queen, was sent by Mr. Edwards, Grove Lodge, Guildford. This the committee asked to be sent to Chiswick, as it is impossible to test Peas unless the growth is seen.

The weather in West Herts.—During the past week there occurred but one unseasonably warm day, when the temperature in shade rose to 73°. The nights, taken as a whole, were also cold for the time of year, and on that preceding the 26th the exposed thermometer fell to within 4° of the freezing point. Both at 1 foot and 2 feet deep the ground is now of about seasonal warmth. Rain fell on five days during the week, and to the aggregate depth of nearly three-quarters of an inch. No measurable quantity of rain-water has now come through the light soil percolation gauge for over three weeks. The first

Hybrid Perpetual Rose came into flower in the open ground in my garden on the 25th, which is eight days later than the average for the previous 12 years, and later than in any of those years except 1888.—E. M., *Berkhamsted*.

PUBLIC GARDENS.

PRIVATE GROUNDS AND THE PUBLIC.

No more specious measure, perhaps, was ever introduced into the House of Commons than the "Access to Mountains" Bill. Under the guise of an artist, a botanist, or an admirer of Nature, the tourist was to be allowed to roam over grouse moors and deer forests, possibly to his own delight, but to the undisputable confusion of the man who paid a large rent for the right of sporting over the ground. Farmers, too, were opposed to the measure, as the tourists and their dogs would have much disturbed the sheep. Putting aside the fact that a succession of trippers would have completely put an end to that quiet which is so necessary for moors, forests, and sheep farmers, we urged, on each occasion of the Bill being introduced, that many of those who would have taken advantage of its provisions, had it become law, would certainly not have comforted themselves as sober artists and botanists should. Eggs, if found, would doubtless have been abstracted if any tourists were abroad in the nesting season; while other damage would have been committed to the detriment of the owner of the shooting; for it has long been notorious that some people will abuse the privileges extended to them. Of this we have a very recent instance. The Earl of Malmesbury had for some time been accustomed to throw open his beautiful Rhododendron forest at Heron Court, near Bournemouth, to the public; and to wander there was a treat which could not be otherwise than highly appreciated by numberless visitors to that seaside resort and the district. Then the order went forth that the public were to be excluded, and it is only the other day that a daily journal stated the regret expressed that Lord Malmesbury still continued to close the forest against strangers. This note brought forth a reply from the owner of Heron Court, "No one," wrote the Earl of Malmesbury, "regrets it (the closing of the forest) more than I do; but I had no alternative, owing to the behaviour of visitors from Bournemouth, who set law and order at defiance and my woods on fire." Here is a pretty indictment against tourists, holiday-makers, and others who aforetime availed themselves of being allowed to enter private grounds; yet nobody who knows the country well will say that Lord Malmesbury has been guilty of the least exaggeration. It is a common enough saying that property has its obligations as well as its rights, and, up to a certain point, the saying is true. As a rule, we venture to think, no one realises this more than those who own large and picturesque parks, and in different parts of England houses and grounds are thrown open, under certain proper restrictions, to the public; but it is unpleasant to relate that people will get out of the way of the cicerone or attendant to commit some petty damage.

Many years ago, Lord Hill's fine park at Hawkstone, in Shropshire, was thrown open to the public, who were allowed to picnic therein; but the concession was so far abused that broken bottles were left about, with the result that both horses and deer were lamed; so the public were no longer allowed to take provisions with them, but were obliged to make their meals in an hotel which was built at the entrance to the park. It should surely not require much thought to cause people to remember that broken glass left lying about must be a source of great danger to human beings as well as to animals; and when Oxford races were held on Port Meadow there were in most years accidents arising from this very cause for some days after the racing was over. Private parks and gardens cost a good deal to keep up,

and the privilege of walking in them is highly valued by all, careful and careless alike; and, while it must be admitted that there are not a few careless and dishonest visitors, there are at the same time many who are careful not to do any damage. Many owners make a charge for viewing show houses and grounds, dividing the receipts among local charities and charitable institutions. This, of course, to some extent does away with the presence of the objectionable class, but not entirely; for complaints have been made of damage by several owners who do make a charge. Anyone who finds his woods, his grass, or his gorse fired, may well feel annoyed at this return for his kindness, and no one need be surprised if he closes his doors to casual visitors, as the Earl of Malmesbury has been compelled to do, in consequence of the loss he has suffered by his plants and trees being injured and his woods set on fire. There is in Devonshire a show house, in which the one piece of furniture was a fine old Oak chair, and round the house visitors were allowed to ramble free from any restraint. Twenty years ago or more so many names were cut on the chair that there was room for no more; and this habit of disfiguring everything that can be cut or scratched is one of the curious freaks of the holiday maker and tourist, who think that no place which they may have visited is properly honoured unless it bears their names. There are people who steal flowers from the graves and borders in cemeteries; while the public parks in London and elsewhere are not free from the pilferer; readers at the British Museum have been known to mutilate books—in short, wherever people have access to something with which they cannot provide themselves, in a large number of cases they deliberately set themselves the task of doing injury and wrong. The picture galleries and libraries of some of the great London houses have been occasionally thrown open on Sunday afternoons, and in one or two cases some slight injury to something has subsequently been discovered. It is hardly possible to over-estimate the enjoyment to hard-worked people of going for recreation, not into a desolate open space or a disused burial ground, but into a well-kept private park, or into a comfortable private gallery, instead of bare public rooms; but the misdeeds of a few cause the *entrée* to be denied, and, in the emphatic words of a contemporary, and quoted by Lord Malmesbury, "The British public has to suffer for the behaviour of the British cad."

Sauce for the goose is proverbially sauce for the gander, and we have purposely laid a good deal of stress on the fact that those gentlemen who do their best to add to the pleasure of the poorer members of the community have every right to expect that, in return for the concessions they make, respect shall be shown for their property and convenience. If this respect be not shown, the place is closed, as has been Lord Malmesbury's Rhododendron forest, and several other places. But on the sauce for the goose and gander question, how about the farmer who finds that his concessions are abused? The owner of the park which is closed against visitors simply warns them off; but farmers have to be more long-suffering still. Year after year they see their crops ridden over—not by those who go field for field with hounds, but by those who are half a mile behind the pack. They see their gates left open, their fences gapped by those who have not the pluck to ride boldly at them, and they find people taking short cuts over their land when going to the covert side or returning home after hunting. In noting these matters, we are very far from saying that private parks and gardens should not be closed against wanton visitors; still less do we invite aggrieved farmers to warn hounds off their land because they have suffered a certain amount of injury at the hands of the thoughtless. The real subject of the moral is the hunting man himself. He, at least, should not be blind to the fact that if the owner of an estate is justified in closing his grounds to an uneducated class because of the damage its members do, the farmer would be equally justified in keeping

out the gentlemen in tops and scarlet, who really inflict far more injury than do the tourists and holiday-makers to the private grounds of noblemen and gentlemen. Those who come out of the slums may almost be pardoned if, in their pleasure at finding themselves amid new surroundings, they in their ignorance or thoughtlessness commit some wrong; but little can be said in extenuation of the man who goes out hunting and violates almost every canon which is supposed to govern the sportsman. Hospitable persons who entertain men on their way home after hunting know quite well that their guests will allow their horses to plant their feet on the edge of a grass plot, or even on a flower border; and this we have ever maintained is quite as great an offence as any which is committed by those who damage property over which they are allowed to walk.—*Field*.

The proposed extension of Hampstead Heath.—The freehold estate of the late Sir T. Spencer Wells, known as Golder's Hill, Hampstead Heath, has, we learn, been sold for £38,500. A movement is on foot to secure the estate for the public as an extension of Hampstead Heath if the necessary funds can be raised, and it is understood that the purchaser is open to deal with the property from that point of view.

NOTES OF THE WEEK.

Epilobium obovatum is a dainty little rock plant from California, forming a spreading mass close upon the ground, and freely furnished with large open rose-purple blossoms. The plant flowers for some time during summer, and prefers a warm, well-drained position on sunny rockwork.

Erigeron glaucus.—This handsome composite has been in full flower for more than a month, and is remarkable for the longevity of the blossoms, which are large and very showy. The florets forming the rays vary from a distinct lilac-blue to a reddish lilac hue, the leaves slightly clammy and entire. The spreading habit ultimately assumes a procumbent form that renders it quite distinct from other species of the genus.

Polygonum baldschuanicum.—When seen thickly studded with flowers and at a slight distance, this plant strongly resembles a cloud of foam, sufficiently so to entitle it to bear the term Foam Bush, the bunches of blossoms hanging around the twiggy branches of which the plant is composed in great abundance. It is a pretty climber of a sub-shrubby character, breaking and flowering with remarkable freedom from the old twigs or branches. A fine example of this is now in excellent condition in the Royal Gardens, Kew.

Sparaxis pulcherrima alba.—The typical species is fairly well known, although it is by no means a plant which flowers regularly in the open in this country, but the white form as cited above is much more rare. It is, however, a chaste and beautiful flower, singularly graceful and elegant in its bearing, by reason of the thin, almost wiry, nature of the long arching spike that bears its blossoms in profusion for a long season where a good cluster exists. An excellent white-flowered variety is now in bloom on a warm border at Kew.

Iris tectorum.—In reply to the note in THE GARDEN of June 18 (p. 521), I may say that for the first time since I received it, several years ago, *Iris tectorum* is not flowering. The plant on the roof garden is apparently quite thriving, but I fear that I have it in too exposed a position. It is close to the apex of the roof, where it gets more than a due share of the cold winds. It is, however, perfectly hardy in this position, but I am removing it lower down, where it will have as much sun with a warmer situation.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Chrysanthemum leucanthemum semiduplex.—This, although not an absolutely new plant, is pretty enough to deserve to be more widely known. Its distinguishing feature is the number of narrow ray petals arranged in a loose and informal way between the ordinary rays, as

seen in the typical plant, and the yellow disc. This gives it a very light and graceful appearance, which adds to its value as a garden flower or for cutting. It is quite hardy and perennial, and increases rapidly. In the light soil here it is always very pleasing.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Dianthus callizonus is among the choicest of the Pinks and worth special care to make it a success. In point of size it may be compared with the more tufted *D. alpinus* or *D. neglectus* when these are of large size, and of richer colour than either. The large solitary blossoms, however, are produced on leafy stems that are 3 inches or 4 inches long, the tuft of leaves decidedly more spreading than in the other kinds named. A patch of this covered with its handsome flowers would form a charming picture, and coming as a close succession to other species invests it with additional value. A coloured figure of this appeared in THE GARDEN of October 10, 1891, p. 332.

Baptisia australis.—When well grown and fully established this plant is very effective either in the border or in isolated positions on the grass. It is, however, a plant too rarely seen in good condition, for not only is it distinct in its flowering and among perennials unique in early summer, for it makes quite a handsome bush of its slightly glaucous leaves and attains nearly or quite 4 feet high and as much through. Indeed, there is just such an example at the present time flowering in the herbaceous ground at Kew and bearing quantities of its metallic blue flowers on stout stems. The plant is of easy culture in good ordinary soil, but it requires to be left alone in order to attain its full size.

Saxifraga cochlearis.—This is, perhaps, the finest of all the crusted Saxifrages in bloom at the present time, the snow white flowers but very faintly tinted with pale pink spots, so pale as not to be seen at a little distance off. Its beauty, however, is very marked where a small colony has been established, as it is among the most free flowering of its race, the purity of the blossoms appearing to even better advantage against the reddish-coloured stems and peduncles. Unfortunately, this plant is not always to be obtained true to name; indeed, confusion exists with both this and the "minor" form, the latter being most frequently sold as *S. valdensis*. The abovekind is about a foot high when in bloom and very dainty in its general appearance.

Campanula pulla.—This is always a most welcome member of the Bellflower family, the elegant drooping blossoms depending from a fragile stem that is arched in the most distinct manner. There is a richness in the colour in this charming plant that is not equalled by any other species. For the growth and general habit of the plant the flowers are much larger than in any plant of similar stature, and the blossoms borne singly on the stems may to some extent account for this. The rich dark purple bells are now very effective. I do not know if there is more than one recognised form of this lovely Austrian Hairbell, but in the plant now referred to the flowers expand somewhat at the mouth, while in another instance noted a few days since this is quite wanting.

A new Lily.—"S. W. F." remarks on p. 550 of THE GARDEN for June 25 "that if *Lilium rubellum* (exhibited at the Temple show) should prove hardy it will be a most valuable addition to the flower garden." It therefore may be of interest for him to know that I received some Lily bulbs from Japan last year marked "New kind of Lily, Krameri variety." They were at once planted in an open border with a south aspect, in warm, light soil, and have been in flower for several days. From the illustration and description in the *Gardeners' Chronicle* for May 28 there is no doubt they are *Lilium rubellum*. Of course, last winter was unusually mild, still the late spring weather has been most unfavourable to many hardy plants, and I should say this new Lily will prove quite hardy and easy to grow in ordinary garden soil. Those now in flower here have from two to three pretty pink

flowers on a stem, which last for some time without losing their colour.—E. M. WEBB, *Nottingham*.

Cypripedium spectabile.—The most valuable of all hardy Cypripediums is the above, and one which is now flowering freely. Its chief value, apart altogether from the beauty of its handsome flowers, is due to the ease with which it may be grown in cool and shady spots in almost any garden, and also to its perfectly reliable character where given proper cultivation. This is more, perhaps, than could be stated of the majority of the hardy species. Given a moist, peaty bed, where a constantly cool rooting medium is guaranteed, and with good plants, one may rest fairly well assured of the plants becoming stronger and better each year. Size and general vigour may be increased if a specially deep bed of peat is given, to be followed each autumn by a mixed mulch of decayed leaves, peat, and very short, finely sifted manure. The last is not usually applied in planting this Orchid at first, but it may be supplied in the manner suggested and with good effect.

A note from Homburg.—There are many trees grown here that one seldom sees in English gardens. Four of them are particularly handsome. One is the American Silver Lime (*Tilia alba*). This variety has leaves of a darker green and larger than the common Lime, the under part being silvery-white. The leaf-stalks being long, the under-side is often turned to the front, and the mixture of green and silver has a very pleasing effect. The flower-pods, not yet open, resemble those of our native kind. I do not know if they are equally sweet scented. *Salix vitellina aurea pendula* is a much handsomer tree than the Babylonian Willow, being perfectly hardy, having the same habit, and much longer branches. Aurea only refers to yellow twigs; the leaves are green. The Babylonian Willow, so often extolled for its graceful beauty, has one great defect for a northern climate; it is sub-evergreen. The first early growth begins in February, and seldom escapes a spring frost. Its beauty is not developed until late in July, if then, when it has made a second start. Anyone who doubts this should now visit the upper parts of the Thames, where these trees abound, and he will see how shabby the universal favourite looks at this season. Here, being near the variety I have mentioned, the two can be compared. *Acer pseudo-platanus erythrocarpum* is a Sycamore with pretty scarlet keys. The fourth tree is a Maple with dark green leaves when perfected; the young shoots are bright red. This tree is planted on either side of a street, and is very showy when the sun lights up the young red leaves. I do not know its right name. A winter in North Germany must be, as far as outdoor gardens go, rather dreary, as evergreens are few and far between; they cannot stand the severe cold. Even Aucubas and Laurels, which are planted *ad nauseam* at home, are grown here in tubs.—J. H. W. THOMAS.

Water weed pest (*J. Matheson*).—The weed sent is a species of *Chara*, a pest that propagates itself abundantly. The following remedies for its destruction have been effectual in many cases: (1) Drain the pond or lake, clean out the mud, and when the bottom is dry pitch it with a layer of chalk. (2) Drain and dry the bottom, and water by water-cart with a strong solution of carbolic acid. (3) Clear out the bulk of the weed with rakes or drag-chains, and keep swans and other water fowl in order to keep it down. The feeding source should be carefully guarded against the ingress of water weeds, but in the case of this weed as well as the Canadian Water Weed the smallest scraps (often carried from lake to lake by water fowl) will increase, as well as by the spores and seeds the plants produce.—G.

Names of plants.—*Heary Shrub*.—1, *Angulol uniflora*; 2, *Odontoglossum Ruckertianum*; 3, *Epidendrum ciliare*.—*J. S. S.*—*Polystichum vestitum*.—*L. Burnett*.—1, *Trifolium resupinatum*; 2, *Sisymbrium Iri*.

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THE MARKET GARDEN.

GOOSEBERRIES IN KENT.

As is well known, Kent is the principal centre of commercial fruit culture, and, owing to the varying conditions of soil and situation, the county may be divided into sections, each producing its own fruit. One district is the favoured home of the Strawberry, from another more Raspberries are produced than from any similar area in the kingdom, and a third is noted for its Cherries. Kentish Cobnuts flourish in the brashy soil on the gently sloping hill-sides, where other fruit will not grow satisfactorily, and in rich fertile districts Apples, Pears, and bush fruits grow to perfection. It may sound strange to hear of any particular area being noted for Gooseberries, for in every garden in the kingdom this popular fruit is found. This seems to point to the fact that the Gooseberry is an accommodating fruit without any particular fancy for soil and situation, yet it is only in a few places where the cultivation of Gooseberries is treated as an industry. In private gardens the Gooseberry quarter is generally in a sheltered position and necessarily limited in extent, but in Kent Gooseberries are grown in the open fields by the acre, and it is from these favoured districts that the tons of fruit that find their way into all parts of the metropolis and other great centres of population come. Anyone travelling by road from Canterbury to Sandwich may, by leaving the main thoroughfare and threading through the little villages that lie on either side, pass into one of the centres of commercial Gooseberry culture. It is not the only one in Kent, as other districts are similarly noted, but here the deep sandy loam grows corn and Hops as well as bush fruit to perfection, and an hour could not be more pleasantly spent than in the plantation of a Kentish fruit grower who is interested in his occupation.

Many of the growers are freeholders and own their own plantations, varying in extent, but

giving an idea of the returns that must be obtained from a small area of land to pay percentage on capital, wages, expenses, as well as provide a livelihood for the occupier. When I was in this neighbourhood a few weeks ago Gooseberry picking had just commenced, and women and girls were gathering the fruit and depositing it into the round sieves to be dispatched to the London markets. The Gooseberry crop is an important one on account of the two seasons of picking, and when the bushes are well laden, as is the case this season, the first picking is done as soon as the fruit is large enough. This takes the form of a thinning, as, except in a few cases, the bushes are not entirely stripped, but simply eased of their burden, so that the remainder of the fruit may develop for gathering in a ripe state for preserving. I learnt that prices have been low this season, no doubt owing to the heavy crop.

PESTS.—This season the bushes have a clean, healthy appearance, and the deadly caterpillar has generally been conspicuous by its absence up to the present. The Kentish grower has many enemies to contend with. The county abounds with the feathered tribe, and early in the spring they play havoc with the buds. In many villages sparrow clubs are formed for the extermination of the pests, against which regular crusades are made by members of the clubs. Great differences of opinion exist as to the damage done by birds. One grower will tell you that they are a nuisance, and another in the same village takes no trouble to destroy them, asserting that they do nothing worse than thin the buds. The caterpillar in some seasons is a plague, and a plantation badly affected presents a pitiable appearance, with the leaves stripped to skeletons in a few days unless stringent measures be taken to check the onslaught. Another pest more difficult to destroy than the caterpillar is the Gooseberry mite, which causes the bushes to assume a sickly yellow appearance. During the dry weather of last season it was very common, and caused the death of many old bushes. A

grower informed me that he would not keep old Gooseberry bushes, as they only encouraged the mite, and as soon as they began to show signs of decay they were grubbed up and the ground given a change of crop. By judicious arrangement the plantation may consist of sections containing bushes of various ages, so that when one is done away with the loss is only slight, as there is another ready to take its place. When bushes are marked for grubbing up they are not pruned, but allowed to carry as much fruit as possible, and all this is gathered green, after which the bushes are at once destroyed.

PRUNING in the early spring is an important operation, some men being very expert at it. Kentish growers generally have firm faith in proper pruning, and one may readily observe that the largest quantity of the finest fruit is obtained from plantations where pruning is thoroughly understood and carried out. The question of

VARIETY is important to the growers. In the first place the earliest green fruit realises the highest price, and therefore the sorts producing the first saleable berries are largely sought after. Crown Bob is one of the most popular varieties and is largely grown, as the fruits are suitable for gathering either green or in a ripe state. Lancashire Lad is another kind that is largely grown, and Whinham's Industry appears to be increasing in popularity, though I have heard complaints from growers that its dull appearance when ripe is a drawback when competing with others in the market. The other day I saw a plantation of Greengage Gooseberries, a fine large variety of dwarf, sturdy habit that might be grown in private gardens with advantage. In the district I refer to a popular variety is one raised locally and called Couzin's Seedling. The fruit is large and yellow, and the bushes are strong growers and crop freely. The variety is a good one for market, and, so far as I know, it is grown but little outside the neighbourhood where it was raised. If widely dis-

tributed, I feel sure this variety would be largely grown, but the raiser guarded it so jealously, that up to the time of his death, so I was informed, it was not grown outside his own plantation. Other sorts are to be seen, but generally the list is limited.

Taken as a whole, Kentish Gooseberry growers are a shrewd class of men, ready to take advantage of anything that will tend to their benefit. They have, doubtless, room for the complaints they make, particularly on matters of distribution and where railway rates are concerned. Their knowledge of horticulture does not extend far beyond the limits of the fruit plantation, but here there is much that is interesting and instructive in studying the commercial side of Gooseberry culture.

G. H. H.

KITCHEN GARDEN.

SALADS IN SUMMER.

THERE has seldom been a more favourable summer so far for salads, the cool, moist weather being all in favour of Lettuces and Radishes, the two most indispensable of all salad plants. In many gardens there is a difficulty in finding positions cool and moist enough for these, yet in good tilth, for it is useless planting or sowing in lumpy, badly cultivated soil. Frequent sowings of Lettuces are imperative if a succession is to be kept up, and a good plan is to sow where they are to remain, thinning out the plants when large enough to transplant, and making a few separate rows of the thinnings. The check given to these by lifting and replanting is slight, but it is sufficient to make them a little later than those left in the rows, and they make a useful succession. Sowing about once in three weeks will secure a regular and constant supply all through the summer. The earliest sowings will, of course, be made under glass, and the plants put out on a warm border. Where Celery trenches are got out early the ridges between these are the best positions for the second early crop, and I am now taking splendid heads of Sutton's Favourite Cabbage Lettuce from these. This is one of the best of summer varieties and unequalled for crispness and fine flavour, standing a long time before running, and early in the season it comes in before any other I have tried, being fit for use in so small a state.

A good succession to the earliest crops of this variety will be found in the brown-seeded Cos, plants that have stood the winter on a warm border. Rows of Lettuce do capitally between Peas, the ground being usually in good condition for the latter, while the partial shade provided suits the Lettuce well. Any of the fine white Cos varieties that are now to be had under so many different names are good for such a position, sowing at the same time as the Peas between every other row, and filling the intervening ones, after the Peas are staked, with plants drawn from the seed rows. Both crops come off together, or at least soon after each other, when the ground, without any other preparation than hoeing, is ready for the latest winter Greens or spring Cabbage.

Radishes may be very similarly treated in spring, but, not being so long in the ground, are often sown between other crops, as early Carrots, dwarf Peas of the Chelsea Gem class, and others. It is true that no amount of care in a hot summer will give us the fine succulent roots that we have had so far during the present year, but on good soil, with a little manure sown in the drills to give the young plants a

start, a fair sample may be grown all through the summer. Chives, Mustard and Cress, and other of the smaller salads may be kept going with very little trouble in most seasons, and a favourite addition to the salad bowl in many places is a few leaves of Tarragon.

Tomato Dessert.—The bright red fruits of this little Tomato are very attractive, and although of course the weight per plant would fall far below that from plants of the larger kinds, it is very free. They are liked in the raw state, and in any case they would improve the look of the dessert early in the season, even if the fruit was not cared for. They appear on long bunches in a two-ranked manner, not a spreading bunch as is usual, and a bunch taken off the full length and laid on Vine leaves looks very pretty. The flavour is singularly sweet and pleasant, many people who do not care for ordinary varieties eating this. The plant is of good habit, the fruit setting freely and coming quickly to perfection. It is met with under a great many names.—H.

Cauliflower First Crop.—At p. 490 "A. D." writes of the value of early Cauliflowers. Many of the earliest kinds are selections from the popular Snowball, but that does not make a good selection unpopular, as if a kind that gives a little more size of head without loss of earliness can be obtained it is a distinct gain. First Crop, though not much larger than Snowball, is an ideal Cauliflower for sowing under glass at the end of January or early in February. Like Snowball, it may be had fit for table in a little more than three months if sown thinly and given attention. For forcing I find First Crop invaluable, as its leaves are small and the flower is firm, and though not large, quite big enough. From plants sown in a cold frame early in March and planted out on a warm border I am now cutting (June 18) small compact heads. These are grown between rows of 3-feet Peas.—S. M.

Summer Cabbages, Main Crop and Matchless.—For some years a great deal of attention has been paid to early Cabbages, and rightly so; but in a backward season, such as we are now experiencing, a good breadth of Cabbage to come in during June and July is welcome. No one can grumble at the quality of Ellam's, but I do not advise it for use at the season named. Main Crop and Matchless are excellent varieties to follow Ellam's. They are not too large and remain a long time fit for use. Another good point is that Matchless sown in the autumn is little inferior to Ellam's as regards coming in. Main Crop is cone shaped and of equally good quality as Matchless. Some growers may not require summer Cabbages. I do not advise them unless they are young and clean, but where a large quantity of vegetables is needed they are serviceable. Many put out small plants of the autumn sowing for a summer supply, but I prefer to sow the varieties named at the end of February or early in March.—G. WYTHES.

The Onion crop.—"H. R." (p. 490) says the present season has been a favourable one for sowing, as germination was rapid and sure. "H. R." I think, must have had more favourable weather than we have, as I never remember a season when the Onion seed was so long in germinating and the plants so weakly at the start. So badly did my plants look when pushing through the soil, that I again sowed a few rows, thinking it wise to do so. I only need medium-sized bulbs and do not sow under glass, but the ground is well done—indeed, it was the Celery quarter and the soil is light. The plants during the past week or two have made good progress, but they are fully a month later than last year owing to the delay at the start. There was no lack of seedlings, but they were very weak. I have heard numerous complaints of slow germination this season, and it may be owing to the seed not being so well matured and the cold, unless weather we experienced when the seed was starting. The plants from seed sown six weeks after

the usual time are now as large as those sown early. Winter Onions planted out early made very slow progress, and some plants raised under glass, that I saw early in May, when set out looked very sickly.—WEST MIDDLESEX.

An early Potato—Ninety-fold.—Needing early Potatoes as soon as possible, I have for years planted the earliest kinds. Of course there is some risk in early planting, some varieties being much hardier and more robust than others. This season the new Ninety-fold is my best and earliest kind. The season is later than usual. I have in previous years lifted earlier than the first week in June in light soil on a warm border, but I fear many will not lift nearly so early this year. Ringleader follows closely, but is not so prolific. The new kind has a much stronger growth, with erect, strong haulm. I was much pleased with Ninety-fold last year, and planted a much larger quantity this year early in March. The crop I am lifting has only been three months in the soil. This is good work for such an inclement spring, as I notice less robust kinds are very late. Ninety-fold is a white-fleshed, kidney-shaped tuber, and certainly the heaviest early kidney I have grown. Not only does it crop well, but boils dry and mealy, the flavour being excellent, and this in a season we could scarcely expect such good quality.—G. WYTHES.

Large Spinach.—Mr. E. Beckett sent to the recent meeting of the fruit committee leaves of a Spinach called The Carter that measured 15 inches from base to point, and were 15 inches broad at the base. But whilst admitting that such leafage as is referred to exhibits good culture, one is tempted to ask, who wants it? Is it probable that such leaves would be at all so pleasant for food as others not one half the size and which have been much more quickly produced? But the variety does not under ordinary garden culture produce such coarse leafage. I showed in THE GARDEN some time since that this particular Spinach was the well-known Longstander under another name, and although the committee at the Drill Hall asked that the variety be grown at Chiswick with the Longstander and the Viroflay, yet the result is a foregone conclusion. I have often observed when visiting gardens that, in spite of all that has been written about the excellence of the two varieties named—Viroflay, or Victoria, and the Longstander—gardeners continue to adhere to the Old Flanders, still thinking that the round seeded and the prickly seeded are diverse because sold as summer and winter Spinaches. If growers of Spinach will but try either of the newer ones, and especially the Longstander, thinning the plants well in the drills, they will not care to revert to the Old Flanders variety.—A. D.

Early vegetables on open borders.—This cannot be considered an early season, although some three or four months ago it promised to be extremely so. This season I gathered the first dish of Peas (Chelsea Gem) on June 8. These are grown every year at the foot of a south wall and above Apricot tree roots, and nothing can be more satisfactory. These were sown the first week in January. Sharpe's Victor Potato gave good tubers on June 1. These were grown at the foot of a low wall facing south. It is astonishing how the warmth from the wall helps to swell the tubers. Such situations are most useful, as they can be readily covered at night in the event of frost. The first Cauliflower was from plants wintered in pots in cold frames, and planted out on a warm border. These were ready the first week in June, shaking hands with late Broccoli. Early Erfurt is the Cauliflower I grow. Turnips were ready on May 28. These were from a warm border, the kind being Extra Early Milan. The large amount of rain during May just suited these. I cannot find any Carrot to equal a good stock of Parisian Forcing for earliness. This, sown early, comes into use in June, and, although small, the roots are tender when eaten in a small state. In Cabbage Lettuces I find All the Year Round as early as any. Hicks's claims the first place for early Cos kinds. I obtain the first supply by

planting these and the true Bath Cos at the foot of vinery walls. These suffer considerably through the winter from slugs, but not so much as in the open. It was astonishing the difference in the time of Cabbage coming into use compared with last year. My method is to plant in Onion ground, doing this first from plants raised from seed sown at the end of July, and again about August 9. I plant only the small-growing kinds. Good heads can be had early in April.—DORSET.

CABBAGE SPROUTS.

I do not think that anything I have written on this matter can be construed to mean what Mr. Wythes implies in his opening sentence (p. 509), viz., that I hold the sprouts of Cabbages to be of better quality than the original heart, and certainly in the note (p. 411) which he criticises I make no allusion whatever to quality, though I have in former notes held, and hold still, that given good culture the quality is equal. I think nothing of the plea as to tidiness, and see nothing untidy in a well-kept Cabbage bed bristling with good sprouts. My bed now is as free from weeds and old leaves as any spring-planted bed could be; certainly the growth is more irregular, but regularity cannot exist in any bed after cutting commences, and I see no reason why it should exist, as I do not wish to import the principles of carpet bedding into the kitchen garden. Except through stress of circumstances, such as loss of crop through winter frost or through bolting, I see no reason for sowing such a hardy vegetable as the Cabbage in heat at a time of year when the glass department in most gardens is in a congested state, and I manage very well to keep up a succession without it. Of course, keeping the old stumps about for a couple of years is out of the question in any well-managed garden, and I disclaim any sympathy with the practice, but it is a badly-treated Cabbage bed that will not stand a season's growth without exhaustion and yield profitably all the time. I should like to echo Mr. Wythes's pertinent query as to the need for so many varieties to provide a succession. I see no such need. With many so-called new varieties of Cabbages and other things there is a distinction without a difference. If quality and suitability increased in the ratio claimed by the distributors, we should now be eating Cabbages of the quality of the best Asparagus, and what our Peas would be like is beyond conception.—J. C. TALLACK.

—Mr. Tallack's case is so strong in favour of these that he needs no support from me or anyone else in favour of this practice of leaving Cabbages to yield one, two, or more crops in succession, after the cutting of the first heads. Few modern practices have been more justified through long years of experience and profitable results. In fact, Mr. Wythes hardly questions either the quantity or quality of Cabbages produced on the sprouting system, and confesses that he has never tried it. This very material fact, however, does not prevent Mr. Wythes from condemning this sensible mode of further utilising the Cabbage. No one, so far as I am aware, has found fault with Mr. Wythes or any other grower who prefers converting the Cabbage into a short-lived, once-cut annual. If that system suits and pays them best, doubtless they will follow it, but it is manifestly unfair to accuse those who would increase the produce of individual Cabbages with untidy or slovenly modes of culture. Mr. Wythes brings two more direct charges against the sprouting of Cabbages: the system favours the growth of weeds and the exhaustion of the soil. After a practical experience of over forty years of this mode of growing Cabbages, I emphatically deny the first charge. It must be a strong weed indeed that can hold its own amid a break of sprouting Cabbages; the Cabbages, by mere force of numbers and vital energy, choke out weeds. And then as to soil exhaustion. This is easily neutralised or prevented through an occasional soaking with house or stable sewage, soap-

suds, house slops, or dressings of other liquid or solid manures. The dense shadow of the Cabbage sprouts also protects the soil from losing food through sunshine, air, wind, &c., while the deep-running roots are not bad cultivators. No practical difficulty has ever been found in obtaining, under liberal culture, first-rate crops in succession from land that had been under Cabbages and sprouts for from twelve to eighteen months. Mr. Wythes' chief fault with the sprouting system is that it produces a plethora of sprouts, and not that the sprouts are neither good eating nor profitable for sale.—D. T. F.

—I consider there are times when Cabbage sprouts are very useful. When planting in autumn I always put out three or four kinds, and arrange them so that there are a few rows of a large, late-hearting type on the side of the patch where I can leave them advantageously. These follow Ellam's and give heads after the former are over. These are left to give sprouts. All the quick-hearting kinds are cut, the stumps pulled up, and the land roughly dug and broken down. This year I am using it for Carrots. I removed two or three rows of these quick-hearting kinds and planted two rows of early Potatoes early in May, and am hoping to get them off in time to plant small-growing Cabbage again at the end of the summer as a trial. I consider stumps standing long on the ground very exhausting to the land. I doubt, as regards quality, if heads in November were cut from those giving a second crop and from plants that had been planted at the end of the summer and cooked, anyone could tell the difference. I must admit, as far as tidiness is concerned, old stumps are to be condemned. It is astonishing what a large quantity of nice young heads and in a very short time one can get in the autumn when the plants are put out a foot apart each way. Will Mr. Wythes tell us if he plants the same kinds in October, November, and February, and if so, what is the difference in the time of their coming in? I plant at twice, September and end of October, using four kinds, and by so doing I can keep cutting over a long period.—DORSET.

Potato Famous.—Last year I grew a few rows of a medium-sized kidney under the above name, and was so pleased with the results that I resolved to give it a further trial. Twenty rows were accordingly planted on a south-west border on March 3 last. On the same date and on the same border Sharpe's Victor, Myatt's Prolific, and several other well-known sorts were also planted, and a trial lifting took place on June 18, when it was found that Famous had quite out-distanced all others in point of earliness. The tubers were large and ready for use, while Sharpe's Victor will require another fortnight before the tubers will be fit, and the others a still longer time. In point of yield Famous is, perhaps, not quite equal to Sharpe's Victor, but, according to results, it surpasses it in earliness. It is a white kidney, and the quality when cooked is excellent. I shall reserve a good stock of seed tubers of it for another season's trial, when it will be interesting to see whether it will again prove as satisfactory as it has done this year.—A. W.

Seakale.—Growth in Seakale is very backward indeed for the time of year, and at the time of writing is now only ready for the thinning out of the young shoots. Where crowns are required early for forcing this tardiness of growth will prove a serious obstacle, for they will not be ready in time, unless measures are taken to forward growth as quickly as possible. To do this, liquid and artificial manures can be relied on, and the surface of the soil should also be kept well stirred so long as it can be done without damaging the leaves. Quick-acting and soluble manures, such as salt, muriate, and sulphate of potash, also nitrate of soda, are best applied before rain falls, or while it is actually falling. If applied during dry weather, the precaution should always be taken to well mix the chemicals with the soil by hoeing it to a fair depth, when little or no

waste will occur. Liquid can, of course, be applied at any time when it can be spared, and where this and the labour for applying it are plentiful artificial manures are unnecessary. Permanent plantations which yield the latest supplies of Kale are also better for a little help in the way of food, and, like the above, they may have this so soon as the thinning of the young growths has been done.—S. E. P.

Lettuce Commodore Nutt.—Usually this little Lettuce is grown only for early spring use in pits or frames, but for private use I claim it is as good if not better than some of the larger-growing kinds. In gardens of limited extent, where a long supply is needed from a small space, this variety should be chosen, at any rate, for the early summer supply outdoors. At the present time I have it in quantity with hearts as full and solid as possible; indeed, although appearing small, there is more material in it than is found in some of the larger growers. It has stood the spell of dry, hot weather uncommonly well and is slow to run to seed. Early Paris Market sown at the same time, and which has been furnishing fine heads of a beautiful colour, is running to seed almost to a plant, showing that it cannot endure summer drought so well as Commodore Nutt. All Lettuces delight in good soil, and the smaller ones in particular need this—at any rate, in summer, or their diminutive size is still further decreased and the quality deficient.—WILTS.

Cabbage Lettuce All the Year Round.—This is an excellent companion to Hicks' Hardy Cos, as, like that variety, it is very hardy, and always stands well outdoors through the winter. I grow the same number of this sort as of Hicks' Cos under the shelter of walls for early work and am never disappointed with it. I tried Grand Admiral one season, but it was not nearly so satisfactory, and have discarded it in consequence. All the Year Round is also first-rate for wintering in cold pits. For this purpose the best way I find to deal with it is to have the plants in three stages of growth. At lifting time the first lot should be fit for use, the next lot three-parts grown, and the remainder about one-third of their natural size. There is then no difficulty in keeping up a good supply through the winter and early spring months and until those under the walls outdoors are ready for use. The same kind is also principally relied on to afford a regular succession of firm hearts during the summer months.—A. W.

EARLY BROCCOLI.

The early Broccoli crop is more easily managed than a later one, as if the heads form in the autumn a large portion of the crop may be lifted and stored. To get good results, planting should not be longer delayed. Of late years some excellent additions have been made to the early varieties. One of the best is, doubtless, Veitch's Self-Protecting, a variety too well known to need describing. It is not advisable to place all the crop on one quarter, as by giving different positions a longer succession is secured, and in warm localities, in light soil, a south border is too sheltered for the main crop. Of this variety I plant a small portion in the position named, but the bulk of the plants in an open quarter, as the growth is hardier. Another excellent variety is Sutton's Michaelmas White. This follows the Protecting. Walcheren is also a good type for autumn use. Any of the above-named are reliable for use from September to December. Many do not grow the early Broccoli as much as the late Cauliflowers. I prefer the Self-Protecting Broccoli, as it is milder in flavour than the Cauliflower and with care may be had well into December. I wish that the Self-Protecting varieties were more hardy, as a few degrees of frost soon injure them.

Walcheren is also similar to the Cauliflower as regards hardiness, and, though I include it in my list, it is not so reliable as the Protecting, the heads not being so well covered with foliage. On

the other hand, it is earlier than the one named and valuable as a succession to summer Cauliflowers. Last season I had some half dozen varieties of early Broccoli on trial. One I grew in 1896 was so excellent that I gave it more space last year. This was Sutton's Superb Early White. In many respects it is not unlike the old Snow's Winter White. Superb Early White is not a large Broccoli, but it has a beautiful head, perfect in shape, snowy white, and, what is so valuable, it is hardier than many I have grown. In 1896 it stood the frost uninjured. This is in a measure owing to its dwarf, sturdy habit and abundance of thick leafage which covers the flower. This variety, sown in April, was ready early in January, and the heads, if lifted and stored in a shed or cellar, remain good for weeks. Another stock of great merit was Sandringham. This is a re-selected Snow's Winter White, and if the stock keeps as good as it was last year it will be a gain to growers, as it turned in freely during January, at a time the Broccoli is valuable. Christmas White promises to be a popular variety to follow the earliest kinds. The plant is a dwarf grower, with medium-sized leaves protecting the head. It should be planted at the end of June or early in July for cutting at the season named, as I find, like Snow's, it must be given a fair season's growth. G. WYTHES.

Potato Snowdrop.—Good late-keeping Potatoes are always valuable, and any kind that can be had good from digging time up till new ones come in from the open ground deserves extensive cultivation. These remarks apply forcibly to Snowdrop. I had not given it a trial till two years ago, when I saw it at Downham Market. I was then pleased with it and resolved to try it. Last year I planted a good breadth of this kind on a piece of land I worked by the plough and dressed with the refuse from the pleasure grounds. It produced a fine even crop of tubers of the very best size for the table, the quality also good and the flesh white and mealy. I have used this Potato from October till the present time (June 9) and can see no difference since I commenced using it. With me Snowdrop is not a strong grower and was not badly diseased.—DORSET.

Early spring Broccoli.—In planting the mid-winter supply it will be well to allow as long a season of growth as possible. I have found it advisable to select strong plants, giving an open quarter and ample room. A few years ago, when it was possible to obtain a true stock, there was no variety to equal Snow's Winter White. For two or three years I have relied upon Penzance Early White and Superb Early White. These are the two best early spring Broccoli I have grown, but they should be planted as early in July as possible and be well attended to in hot, dry weather in the way of moisture. As a succession to those named to come in during March it is well to plant Veitch's Spring White or Main-crop; these in favourable seasons are ready early in March. The latter is a remarkably hardy Broccoli; though termed a main crop variety, it is really an excellent late winter sort.—S. M.

Potatoes.—I have rarely known the early Potatoes so late as they are this season. In many cases it will be necessary to consider, now July is in, whether the earliest Potatoes must not make way for green crops. In some few cases the Potatoes are ready to lift, but in many, growth this year is much later, and to lift for storing is not advisable, as unless the skins are set they will not keep. I am following a middle course wherever possible. I allow a fair width between the rows, and, in the case of small-topped varieties, plant a green crop between the rows. By using a little care in lifting the Potatoes, the plants are not injured. In some cases the haulm of the Potatoes may need placing in position before planting. I have at times shortened it if the variety was full grown. This season my earliest Potato is Ninety-fold, and excellent it is in every way. It is a good plan to go over late quarters and remove rogues; they can now be seen at a glance, and

if left the stock becomes much mixed and less reliable.—S. M.

Cauliflower Early Forcing.—Nice heads of this, somewhat larger than a large breakfast cup, were available in the week ending June 11, and this from seed sown the first week in February. Autumn-sown plants kept all through the winter would not be much before this. I have never been able to do this Cauliflower well, except by potting up the seedlings and planting with a good ball from the pots. Pricked out and transferred from the open ground, the plants club, and that despite every precautionary measure, the only means of carrying the crop fairly well through being a heavy soaking of water, and earthing well up, that the roots emitted above the club may carry the heads through. This, however, is not advisable if potting up can be practised, as with plants partially saved from the club there are a hardening of the stem and a deterioration of the head both in size and quality.—E. B. C.

Late Broccoli.—Scarcely have we done cutting the last of the so-called spring Broccoli, my latest this year being the excellent June Monarch, than we have to consider next season's crop. I find, unless the plants have a long season to make their growth, they are not always reliable. Most years I have been able to plant the late Broccoli on land cleared of Strawberries, and being short of space I shall be obliged to do the same this year. Owing to the later Strawberry season I am unable to clear the crop so early as desired; so to avoid starving the plants in the seed-beds they are being transplanted to rows 12 inches apart in the row with 6 inches between the plants. They will lift well with a trowel later on and soon make up for lost time. I grow the Strawberries as annuals mostly, and the land is in good condition for the Broccoli, as it only needs surface cleansing. I have found no varieties of late Broccoli to equal Model and Late Queen for April and May supplies. These two are reliable, very hardy, and the cream of the late kinds. June Monarch is invaluable as a succession. This follows the two named, and there is no difficulty in keeping up the supply till Cauliflowers come in.—S. M.

Early Peas.—Of early dwarf Peas, St. Osyth Gem, Chelsea Gem, and William Hurst, sown on a south border in November, there was nothing in point of earliness between the two latter, both being ready at the same time. Chelsea Gem is a trifle stronger, but the two are so nearly alike that it is hardly necessary to grow both. St. Osyth Gem has a stronger haulm, is slightly taller, and rather later. It is larger alike in pod and pea. In this matter of a successor as a dwarf Pea to the first earlies it is doubtful if anything is better than Daisy, to combine that is the characteristics of a capital cropper with first-rate quality. In connection with Potatoes it has been remarked that if only one variety were grown it might well be Windsor Castle, and so if a grower were restricted to one Pea he might do worse than rely on Daisy. In the open quarter the first sowing is two rows respectively of Veitch's Selected Early, William the First, and Criterion; they follow each other well in the order named.—E. B. C.

Autumn-sown Onions running to seed.—It is curious to note how few have complained of their Cabbage going to seed, but it is strange that so many Onions should run to seed. I always sow at the end of August on deeply-worked ground, and being a very mild winter I had no losses among the Onion crop early in spring. When thinning them out those that were not wanted were taken up carefully and planted out. When they commenced to grow I saw that a good portion of them was going to seed. Of the White Spanish, Newnham Park, and a selection of my own at least half has gone to seed, nor can I see the least difference in those that were planted out. A very large percentage of the Tripoli section has gone to seed. It is clear it must be owing to the season, seeing that the treatment is the same as in former years. No

doubt the mild winter is the cause of the Onions running to seed so badly this year.—DORSET.

Vegetables at Richmond.—This is the earliest of the summer exhibitions at which vegetables are largely shown, and, certainly for the season, a first-class beginning was made. If later shows see a material advance in finish and quality the product will be fine indeed. Peas were splendid samples. Of these in the numerous exhibits, Duke of Albany and Early Morn were capital. I should like to see in Peas more individuality. The finest pods, and markedly distinct, were not named. Potatoes also were generally good. Very handsome were Supreme, Satisfaction, Ashtop Fluke, First Crop, and a rather too large, long, flattish seedling. The finest Tomatoes were Perfection, generally so shown, Duke of York, Eclipse, and Excelsior. In these fruits there is so little individuality that one variety may have a score of diverse names. Still, some of the dishes were exceptionally good and rich in colour. The chief Carrots were the Early French Horn, called here Early Gem and Early Forcing, and the Nantes or Summer Favourite. These were small, as Carrots generally are shown, yet very tempting samples. Canadian Wonder and Magnum Bonum were the best, and excellent dwarf French Beans. Mammoth Longpod, Leviathan, and Seville were the names given to Longpod Beans, generally long, clean, and handsome; Model and Improved Telegraph, the best Cucumbers in the collections; and Magnum Bonum, Walcheren, First Crop, Defiance, and Mont Blanc the Cauliflowers. Certainly in these the only distinctions are found in the names. The heads as shown, very white, solid, and of nice table size, were all like one another. There were also white Lisbon Onions, giant Lettuces, Asparagus, and Turnips. All these things show that even with a late season and very little sunshine, yet even so early as mid-summer superb vegetables can be exhibited.—A. D.

NOTES AND QUESTIONS.—KITCHEN.

Peas.—How wonderfully well Peas look everywhere this year. My own trials in three diverse parts of the county of Surrey are excellent. They could not well look better, and in fields where grown for market the breadths are very vigorous and clean. It is true, Peas are very late in podding this season, but there should be a wonderful supply in the market presently.—D.

Too many Broccoli.—I note "G. W." (p. 310) speaks very highly of Monarch. Will he kindly say if this is later than Latest of All and Methven's June? I see that a correspondent in a contemporary points out that there was a sameness in a goodly number of so-called kinds at the Temple show. I can see little difference in the kinds of to-day as regards lateness compared with kinds I could name that were grown thirty years ago.—DORSET.

Late Queen Broccoli.—This is a very useful variety, especially where there is little convenience for keeping autumn-sown Cauliflowers through the winter. The plants are dwarf and the curd is well protected by the ample foliage until fit to cut. In the open quarters I cut the first heads in the last week in May, and there will be a succession for three weeks at least, and this at a time when green crops are not too plentiful or good in quality.—H. R.

Big Radishes.—I am glad to see "Cornubian" making a protest against these (p. 510). I do not object to large specimens of anything, provided the quality is first-rate; but I yet have to learn that big Radishes are good. I am aware one often sees them large on the market, but this does not prove they are then at their best. In big towns many purchasers know nothing of the standard of quality, size being the first consideration. Recently I went into a shop and saw some of these big Radishes, and on tasting one I found it so hot and strong that there was no comparison between it and roots of French Breakfast, young and tender, growing in my own garden.—J. CROOK.

ORCHIDS.

LÆLIA PURPURATA.

THE subject of the accompanying illustration is a piece of a plant bought at the sale rooms in the early sixties by my father, from whom I received a small piece as a memento in 1871, having had it under my charge at home. This piece I again divided a few years afterwards, and brought a small portion only with one lead to Gunnersbury in 1876. Since that time I have grown it on until the present specimen has been obtained. During the past three seasons it has produced in the aggregate nearly 100 flowers. The plant is grown in an ordinary stove temperature, where I grow also Vanda

is well known in the trade treats his Dendrobes in a similar manner; these I noted as having been shaken out of their pots and soil, then laid on their sides under the benches filled with other kinds. This variety was Dendrobium Phalaenopsis Schroederianum, a nearly or quite deciduous one, it is true.

During the many years I have grown the plant in question I have never rested or eased it by not allowing it to flower, as some do their Orchids. Every year it brings to perfection its crop of bloom, whatever it may be. I am disposed to think we may, and do at times make mistakes in attempting to follow too closely the conditions which obtain in the native habitats of certain Orchids. We have not the surroundings, nor can we always imi-

flatter in the pot, as I fail to see the gain in mounding it up too much.

This Lælia was bought under the name of L. purpurata superbiens; it has flushed sepals and petals, being identical with what is now known as L. p. Williamsi. My reason for showing it was to illustrate the opposite theory to that under discussion anent the degeneration of Orchids. I might add that it is shaded during all bright sunshine, the same blind covering the stove Dracenas and Caladiums.

JAS. HUDSON.

Thunia Bensoniæ.—A good form of this species is very showy at this time of year and a nice contrast to such as T. Marshalliana and other white-flowered kinds. The stems when strong



Lælia purpurata at Gunnersbury House. From a photograph by Mr. Gregory, Croydon.

tricolor, &c., with Crotons, Dracenas, Caladiums, and small Palms as decorative plants. I mention this to show the temperature to which it is subjected the season round. It is never now removed to another house, which it is well to note. I did so on one or two occasions when in flower, but the bulbs shrivelled during the interval too much to please me. After one such case I decided to pull it to pieces and re-make it up completely, washing the roots and leaving it after the manner of an imported plant, only somewhat fresher of course. I shall not hesitate to do so again if need be, as I am disposed to think this is a good way to treat some Orchids when not so satisfactory as one could wish. Another grower who

tate them as we would like. For instance, during what we term the resting period we can easily keep Orchids too dry, and they suffer in consequence. They may possibly be quite as dry in their native habitats, but with a far heavier fall of dew at night, which we cannot so easily imitate; hence they should not be kept so dry at the roots when under cultivation. With me this Lælia flowers, as a rule, every year during the second or third week in June, yet possibly the temperature for the year would average more than that to which this variety is subjected when grown in the Cattleya house. I do not depart from the usual treatment as regards soil, which consists of peat, charcoal, and Sphagnum Moss, but possibly I keep it

are 2 feet high, and the flowers occur similarly to those of T. alba. The colour throughout is a rosy magenta, this becoming much deeper on the front of the lip, and the crests are yellow. Like the others, it must be grown quite unshaded and well ripened after flowering, the roots being kept quite dry in winter.

Oncidium dasystyle.—Though small, this is a singularly pretty plant, flowering at various times in the year. Not many flowers are produced upon a spike, and these have yellowish sepals and petals, the lip having a blackish purple or crimson crest, giving it quite a distinct appearance. I have seen it doing well under various modes of culture, but the healthiest, most free flowering plants are usually those grown well up to the light in an intermediate or cool house, the

compost being kept very thin. It is a native of the Organ Mountains, in Brazil, and was introduced by the late Mr. B. S. Williams in 1872.

Cattleya Aclandiae.—This I have noted in good order this week, a nice plant on a large square raft carrying many flowers. The plant needs care, but is more satisfactory treated to a little compost than when grown on a bare block. At the same time it is easy to give too much, and this causes the roots to become unhealthy, and the vigour of the plant is reduced. A great advantage in using rafts is the fact that nearly all the old compost may be removed and new substituted without disturbing the plant—an important point when dealing with this somewhat erratic species. It is best grown in a good light in the Cattleya house.—H.

THE ATMOSPHERE OF ORCHID HOUSES.

THE keeping up of a correct and well-balanced atmosphere in Orchid houses is an important detail in their management and one frequently neglected. So sensitive are many of the plants, that, no matter how well they are treated in other ways, they will not long continue in a satisfactory condition unless a proper atmosphere is maintained about them. It is the one thing that in cases of difficult subjects is wanting in our houses, for unquestionably we can treat these difficult subjects to better conditions as to a rooting medium than they obtain in a state of Nature. But to provide a suitable atmosphere where air, moisture and some subtle element that obtains in the open air of their native habitats are always properly blended is impossible in the limited capacity of a glass-house. In consequence, some species which are naturally of a vigorous constitution go on and improve under cultivation, while the more sensitive gradually become weak. Some of these are probably only short-lived in the natural state, but this does not hold good with others of which plants are imported that in the ordinary course of events must have taken many years to develop. As a means of overcoming this difficulty we are occasionally treated to long disquisitions as to the conditions that obtain in their native habitat. Such a plant is found growing fully exposed to the sun, another in the depths of a thick forest where the sun cannot possibly reach it, and by following a course of treatment apparently agreeing with this, beginners in their culture have been led to forget that circumstances alter cases, and that what is perfectly right and proper to a wild plant is quite out of place when that plant is taken away from all natural influences and cooped up under a glass roof. This is quite wrong, and, helpful as all such information is to form an opinion as to what will suit a certain plant, to follow it literally must lead to disaster.

The proper atmosphere of an Orchid house, as we know it, is one in which the air is continually changing, kept to a correct temperature according to the state of growth of the plants, and duly charged with moisture and ammonia in some form. This is good as far as it goes, and the best we can do, but to follow the plants through their resting and growing seasons, to supply on the one hand sufficient moisture for the plants' need, on the other to avoid extremes which may lead to a soft and flowerless growth, requires far more care and thought than the average gardener or Orchid grower can bestow. The number of plants of different habits and likings which are grown in one house increases the difficulty. Here is where many beginners go wrong. They expect—in the gardening

papers, for instance—to find laid down the exact mode of treatment; this is evident by the nature of queries that are often to hand respecting their culture. It would be easy enough to say that a house must be damped at such a time and air be admitted at another, but such a way of teaching would never make anyone sure of his ground any more than it would suit the plants, and, useful as it undoubtedly is, personal experience in and about the houses, reading the lessons that only the plants themselves can teach thoroughly, is the surest of all roads to success. It would not, perhaps, be correct to say that what is pleasant to the senses is right for the plants, but at the same time it is easy to tell, on entering a house, whether it has that buoyant feeling that is necessary, or whether it is reeking with too abundant moisture on the one hand, or dry and draughty from too much air and fire-heat on the other. Fire-heat must be tempered by moisture, and the air currents must be in accordance with the outside conditions. With a cold wind blowing it would be folly to put on as much air as on a soft, mild day, and even if the sun is bright on such occasions, the balance is more easily kept right by closer shading and free damping. Heavy damping, again, on dull wet days is wrong, so obviously wrong, in fact, that few will fall into this mistake.

As to providing the ammonia, there are several ways of doing it, such as by placing sulphate of ammonia on the pipes, damping with soot-water or liquid manure. A little dry soot and lime sprinkled about out of sight under the stage, too, has an excellent effect on the atmosphere, and is very distasteful to slugs and small snails as well. It will be noticed that all these aids to a correct atmosphere are more lasting in their effects in a house of fair capacity than in a small, narrow one, where the first upward move of the ventilators takes out the greater part of the moisture from the atmosphere. So that here again discretion must be used, a small structure needing more replenishing of the atmosphere in comparison with its size than a larger one.

These are the most salient points to be noted, and others unavoidably left out will occur to the grower as his experience widens, and he finds by this experience what an important point a proper atmosphere is. H. R.

Cattleya Leopoldi.—The earlier spikes of this distinct Cattleya have been very fine, a nice spike with eighteen large flowers being especially good. This is from a plant imported about two years ago. The individual blossoms are nearly 4 inches across, the sepals and petals coppery green, with deep purple spots, principally about the apex and margin, the lip bright purple. The plant is a strong and vigorous grower and of easy culture, growing from the base in spring and rapidly forming a large stem-like pseudo-bulb. After the flowers are over and the bulb has fully developed, keep the plant quite dormant, but allow sufficient moisture to prevent the least shrivelling. It is a native of Brazil, and was introduced about 1850.

Dendrobium moschatum.—This is a fine old species, but its flowers, unfortunately, last but a short time in good order. Still, while they are fresh the bright yellow of the sepals and the rich maroon blotch on the lip make a fine contrast, and a large well-flowered specimen is very imposing. The stems grow 6 feet or 8 feet high, are leafy over the entire length at first, and go on several years producing these fine racemes of flower. They are, moreover, produced in a longer succession the same year than those of most Dendrobiums, especially the evergreen kinds, for as often as not all the racemes on such as *D. densiflorum* have the flowers open at once, while on

D. moschatum there are often many in bud at the time others are fully open. Naturally the plant requires a good deal of room, but beyond this it is of the easiest possible culture, and will grow equally well in the Orchid house proper or any warm plant or fruit house. It roots freely and likes large rough lumps of peat and charcoal, and consequently a large pot. Water must be freely applied as long as the growth is active, but in spring, when the young shoots push from the base of the old stems, too heavy watering is inadvisable. It is a native of Burmah, and was introduced about 1825.

Ornithocephalus grandiflorus.—This is the only species of the genus that has become at all popular and is a pretty plant when well grown. The pseudo-bulbs are hardly perceptible at the base of the sheathing deep green leaves, and the spikes appear to spring from the base of the leaves, similarly to those of *Miltonia vexillaria*. The pseudo-bulb is there none the less, only small, and from it the spikes proceed, each about 9 inches or 10 inches in length, arching and many-flowered. The sepals and petals are white, with a greenish blotch, the bent column—from which the genus takes its name—being in this species pure white. A native of various parts of South America, it must be kept fairly warm and likes plenty of sunlight. I saw some fine plants of it in flower recently growing in company with other Orchids on flat blocks of wood and only very little compost, these being hung up at the end of a house largely devoted to *Lælias* of the aniceps and similar types, and consequently only lightly shaded. As the spikes of flower are forming often in the winter months, the roots should never be much dried, and during the summer the small amount of compost renders very close attention necessary, as it is a thirsty subject. Though discovered by Gardner as far back as 1837, it is only during recent years it has been at all well known in cultivation.—H.

HOULLETIA BROCKLEHURSTIANA.

THERE are many good and showy garden Orchids that are by no means well known or popular, and although this plant is frequently met with, it cannot be said to receive so much attention as it deserves. It is the type species of the genus and the finest of them all, the erect, many-flowered racemes of reddish and yellow blossoms being very distinct from everything else. The pseudo-bulbs are egg-shaped, about 3 inches high, and from these the flower-spikes proceed. The roots are rather sensitive to disturbance, consequently when giving a shift it is well to allow plenty of room, and use a lasting yet rough and open compost. I have seen good results follow the use of loam in addition to the usual peat and Moss mixture, but I would not advise it for weak, badly-rooted, or unhealthy plants. Like so many other Orchids, the roots do better for a substantial compost, provided they can be induced to take to it with a will, but a plant with its roots only occupying about half the compost allowed it never holds itself steady in the first place, and, owing to the unoccupied material getting sour, the roots on approaching it lose their tips and die back. The preparation of the compost then and the size of the pot or basket used will depend upon the health and vigour of the individual plants. The atmosphere about the plants must always be kept moist, especially while young growths are forming. In a dry atmosphere they are never satisfactory, the pseudo-bulbs seldom swelling up to their full size, and the foliage is liable to insect attacks. So, too, in a very light house; the plant likes shade from summer sunshine, air and moisture always about the foliage, and plenty of water to the roots. It is the practice of many good growers to surface the compost for this and similar Orchids with Sphagnum Moss in order to retain moisture, this growing up around the base of the bulbs and helping materially to keep insects in check. So far it is very good, but a little of it must be

removed on the approach of winter, as it holds more moisture than is required by the plant. With regard to temperature the plant is not fastidious, but for preference a house devoted to Brazilian Cattleyas and Lælias should be chosen where the minimum night temperature is about 55°. *H. Brocklehurstiana* is a native of various parts of Brazil, and although it first flowered in this country in 1841 in the collection of the gentleman whose name it bears, it had previously been grown on the Continent. H.

Dendrobium Farmeri.—Apparently many plants of *D. thyrsiflorum* and *D. densiflorum* are sold as *D. Farmeri*, as frequently I have received flowers of these species labelled *D. Farmeri*, the correspondents asking the difference between them. The true *D. Farmeri* has loose racemes of pale yellow flowers, the disc of the lip deeper than the other parts of the flower, and, though some varieties bear a resemblance to the other species named, they are totally distinct from either. As a rule it flowers later in the season, and is a very

species, for it is easy to tell at a glance whether or not a plant may be included in it. The sepals and petals are usually of a soft rosy blush, occasionally spreading well, but often only partly opening.

Disa Veitchi.—Many growers are far from successful in cultivating the richly-coloured *Disa grandiflora*, and, in fact, are in the habit of purchasing plants frequently only to see them flower well about once or twice and after that dwindle away. In this hybrid Messrs. Veitch have given us a plant equally showy and beautiful, but with a much better constitution, or, rather, more amenable to culture, for the old species is vigorous enough when well grown. *D. Veitchi* is a hybrid between *D. grandiflora* and *D. racemosa*, a species noted among Disas for its ease of culture. The sepals are bright carmine, the inner portion of the lip nearly pure white, with an abundance of crimson spots. The plant may be freely propagated by means of offshoots, and these rapidly grow into flowering plants in a cool, moist and shady house if arranged

old material was removed and fresh substituted, this keeping the plant in good health. It is a native of Java, and was introduced by Messrs. Williams and Son, of Holloway.

FLOWER GARDEN.

DICTAMNUS FRAXINELLA.

(DITTANY.)

THE Dictamnus is, perhaps, among the best known of old-fashioned perennials, and as such often figures in wayside gardens in rural districts, where perchance the plants have been for years. Few plants resent constant interference more than this. In these respects the Dictamnus is on a par with the Pæonia, and, once well planted in deep soil, it may remain many years without disturbance. I remember some fine examples of the coloured variety that attained to fully 4 feet high and as much through, the plants occupying a position near the margin of the lawn in a large garden near London, where hardy plants were generally well cared for. The plants in question were placed originally one in the centre of each bed, other plants for the time being being planted around till the Dictamnus attained a good size, when the whole bed—a circular one—was given up to the plant in question. The Dittany is well suited to grouping on the grass, and tells to advantage especially where a sort of serpentine walk forms crescent-like recesses in the shrubbery border, and therefore on the grass which acts as a foreground. In such places good bold perennials are often effective, and where more than the ordinary care is taken in planting them, the reward will come in greater vigour and finer specimens generally. One good point concerning it may be mentioned: it is its self-supporting character, no sticks or supports of any kind being needed. Just now the red and white forms of this plant are at their best, and where good plants exist they are very showy.

Planting may be done in autumn or spring, but in the spring it should not be too long delayed, as the plants may suffer from a dry summer. Autumn planting is preferable, provided a deep bed of soil, which, if heavy or clayey, may be lightened with road-grit and leaf-soil can be given. In the matter of soil, however, these plants are not at all difficult to please, seeing how they luxuriate in common garden soils in various parts of the country. The Dictamnus may be increased by seeds or division, the former preferred. The seeds should be sown in the open ground as soon as gathered. A strong odour that is inseparable from the plant pervades the roots as much as the branches, and by which it may be readily recognised without seeing it. This odour is by no means unpleasant, but varies in its intensity. E. J.

Columbines.—How strange it is to find that there are in gardens myriads of flowers, costly and otherwise, grown, too, with exceeding care and trouble, not one of which exhibits that singular grace, elegance, and beauty the hybrid *Aquilegias* possess. It does not now matter how originated; it is enough to know that we have these hardy flowers in almost wondrous profusion, and that from a packet of seed costing, perhaps, one shilling may be obtained 100 plants that will in two years rival in beauty any garden flowers we have. Seed sown now in a box, in pans or under a handlight, so as to enable the soil holding these hard-shelled seeds to be moist, will give strong plants to put out in October. These will bloom moderately in the following



Flowers of the Dittany (*Dictamnus Fraxinella*). From a photograph sent by Miss Hutley, Derward's Hall, Bocking, Braintree.

fine species. It is a native of the Khasia Hills, whence it was introduced in 1847.

Cattleya Mossiæ aurea.—As in many other varieties of this species, the individual plants vary considerably, and, as a rule, the flowers are under the average for size. The sepals, too, often lack the width seen in the best varieties. A small, newly-imported plant now in bloom with me for the first time is much finer than usual, the yellow zone on the lip being large and spreading, and the whole flower of good size and substance. The aurea varieties have a very distinct appearance from all others, and a few plants help to brighten up a group of the species. It seems hardly worth while splitting these up as is done and labelling aurea grandiflora, superba, and others which differ little except in size from the type, but one, *C. aurea marginata*, as I noted it recently, seemed worthy this distinction. The lip was large and finely fringed, and the side lobes had a broad wavy margin of clear golden yellow. At all events the aurea group is quite a distinct section, and almost as clearly defined as some

close to a ventilator or in some position where the air current will play freely about the foliage. The best compost for it is peat fibre, a little leaf soil, and clean fresh Sphagnum Moss. If planted in pans with perforated sides there is less fear of the young shoots being smothered, as they find their way out through the holes in the sides. This hybrid first flowered in 1891.

Vanda limbata.—This is a pretty species but seldom seen in cultivation. The flowers occur on short racemes, and on the inside of the segments are of a deep reddish tint, margined with yellow, the reverse pale rosy purple. It is a fairly stout-growing plant with green leathery leaves, and delights in ample warmth while making its growth. The compost should consist largely of Sphagnum Moss and charcoal. Water must be freely given during the summer, and light dewings overhead help to keep insects in check. A plant I had under my care some years ago did well in a house devoted to Phalaenopsids and tropical Cypripediums, where it was suspended not far from the roof-glass. Each year a little of the

spring, and quite luxuriantly for some three or four succeeding years. It is wise, however, to make a small sowing annually, and outdoors this may be best done in the early summer.—A. D.

Lupinus polyphyllus.—The herbaceous Lupines are worthy of a little more attention than they have received, and anyone would do a great service who could gather together and grow a collection of the species available. Occasionally in botanic gardens one meets with a few plants not usually seen, but the number grown in these collections is very limited. None that I have yet seen appear likely to drive out of cultivation the old *L. polyphyllus*, which is generally represented by three colours—blue, white, and blue and white. Of these I have generally preferred the bicolor form as being brighter than the first, and because the white variety has usually a provoking habit of dropping some of its flowers before all are expanded, and so spoiling the symmetry of the spike. The other day in going through the Daisy Hill Nursery, Newry, I observed one of the species, and on remarking to Mr. Smith that the genus wanted looking up and improvement, he led me to a bed of seedling *L. polyphyllus* then in full bloom. The plants formed a fine sight, as not only was there variety in the size of the flowers and the length and density of the spike, but also in the coloration. Among the whites, while some displayed the fault already complained of, others were free from this defect. There were some pretty shades of blue and some tints of purple besides the pleasing bicolor. A bed of these fine seedlings on the grass or in the shrubbery would look well. Others who have time and space might well devote some of both to raising seedlings of the many-leaved Lupine.—S. ARNOTT.

GUNNERA MANICATA IN IRELAND.

THIS Brazilian Gunnera when well grown is indeed a magnificent and imposing plant. Young specimens give no idea of the effect of a well-established plant in congenial soil and surroundings and receiving regular attention in the way of manure. I question if finer specimens can be seen anywhere in the United Kingdom than in Ireland. For waterside planting it is a favourite there, and nothing can surpass the beauty of a huge plant on a promontory or an island on a lake. I am not sure, however, that it is not being too frequently planted in this way, fine though it is. The individuality of lakes and ponds becomes lost unless some originality is displayed in planting, and one is disposed to fear that *Gunnera manicata* is likely to be too frequently seen in some districts. This should not, however, tell against its introduction into parts of the country where it is little known and where its presence would create a new feature of the highest order. On a previous visit to Irish gardens I was much impressed by the way in which *G. manicata* was grown there. This year the impression was strengthened, although my engagements did not permit of my revisiting the finest specimen I have ever seen. This is at Narrow Water Castle, not far from Newry, where there is a plant of truly magnificent proportions. I am unable to give its height or the space covered by the leaves at the base, but its beauty may be surmised when one is able to tell that some of its leaves two years ago were 9 feet in diameter. It was in a specially favoured position, but much of its size is due to the careful way in which its wants are supplied. It appears that this fine specimen receives three loads of cow manure every year. I am told it is even finer this year. There is another very fine specimen in the noble gardens of Lord Ardilaun at St. Anne's, Clontarf, Dublin, where it is planted in a most skilfully chosen position by a sheet of ornamental water. It is cared for as liberally as that at Narrow Water, and may in the course of a few years assume as imposing dimensions. At Trinity College Gardens there is another very large specimen by the side of the pond, and when the Water Lilies are in full flower their

beauty is emphasised by the contrast with the rugged, massive foliage of the Gunnera. At Straffan House, Co. Kildare, Major Barton has also a magnificent plant, which I was not near enough to judge of properly, but which in the distance looked of great size. The same may be said of a good specimen by the side of a sheet of water in the Phoenix Park, Dublin. In other gardens I saw smaller plants, but none were so fine as those I have mentioned.

This Gunnera is hardy in the south of Scotland also; and along the west coast, with shelter from high winds, which would break or disfigure the great leaves, it ought to be more generally grown. The conditions under which this Gunnera does best seem to be shelter from wind, a climate mild in spring, and planted in such a way that the plant itself is on a small mound, the roots having free access to moist, peaty soil beneath. Although the great beauty of the Gunnera consists in its foliage, the inflorescence attracts attention by its curious appearance as it stands up among the lower leaves. Wherever a good plant is seen it commands almost universal admiration by its tropical look and majestic mien.

S. ARNOTT.

THE MADONNA LILY.

YEAR after year the stems and leaves of the Madonna Lily have been attacked, and in some seasons all the flowers have been spoiled by disease. I have long been an advocate of a system which was I believe first recommended by "E. J.," viz., lifting and sun-drying the bulbs whenever the disease has been very prevalent, for by keeping them out of the soil long enough to prevent autumn growth the spring attack does not commence so early and the spikes get forward enough to produce flower-buds before the attack becomes severe. Real progress in combating the disease has, however, been slow, and the spores must have wonderful vitality, as they have always come again with more or less force. For a few years past I have given a change of site each year, and have fancied that the disease was slowly disappearing, but scarcely dared hope that it would be beaten. I can, however, record that this year in a bed of plants containing over 300 spikes not a dozen disease spots can yet be found, though the flowers are on the point of opening, so that one may surely expect a good season and a lessening of the crop of disease germs for next year. The bulbs were planted thickly in a specially prepared bed, where Lilies had never been before, the top soil being thrown out and a heavy coating of manure dug into the bottom spit. To test the influence of deep v. shallow planting the bed was dug so that the bulbs at one end were only just covered with soil, and the depth was increased by a graduated fall to 6 inches at the other end. The only difference noticeable is that the shallow-planted bulbs have the taller spikes, though the difference is so slight that probably if measured from the bulb instead of the surface there would be nothing to choose between them. Should no disease appear, I intend to leave the bulbs alone this year, as something in height and in number of flowers is lost by lifting; but this is better than having plants eaten up by disease, and if one can by persevering master the enemy, it is worth trying. There are many conflicting opinions among keen observers as to the best means of combating the Lily disease, and I do not wish to assert that the deductions I have made from the results obtained are right. It may be that other unknown influences have been at work helping to secure immunity from disease this year, for the lifting and drying have been tried and found wanting in other places and other years. Still, one failure in an infected garden

does not disprove the value of the practice, and I simply give the above as a record of things as they appear here, where the case was so bad a few years back as to make it appear that the Lilies were doomed. There has been no change of or addition to the stock in the meanwhile to account for change of condition, and disease is still prevalent in the neighbourhood.

Livermere Park.

J. C. TALLACK.

FLOWER GARDEN NOTES.

HARDY PLANTS IN FORMAL BEDS.—Beds of formal character that some years ago were filled respectively in autumn and spring with the usual winter and tender plants have for some time been tenanted with hardy subjects. Since the appearance of flower on the *Doronicums* and *Tufted Pansies* a number of them have been bright. They are just now very gay and will last to the end of the summer. The planting of such beds with hardy things requires a little consideration and care, especially if the said beds are small and rather close together. Tall things of straggling habit are not advisable, and a study as to the different shades of colour likely to be produced is necessary. The large *Doronicum* is still flowering freely on a carpet of *Tufted Pansies*, and seems likely to last for some time. This long-sustained display on the part of this plant is perhaps not sufficiently recognised. It is a valuable characteristic, and its usefulness is thereby considerably enhanced. *Campanula persicifolia* and *p. alba* on carpets respectively of *White Swan* or *Violetta* and a good purple *Pansy* are suggestions for beds of comparatively small size that will be very pleasing, and this season the old *London Pride* (*Saxifraga umbrosa*), considerably later than usual, is looking very well with the blue *Campanula*. *Pinks* are just now at their best, and a fairly dense planting of *Pinks* in full flower is hard to beat, appealing, as it does, alike to the sense of sight and smell. For varieties like *Mrs. Sinkins* or *Her Majesty*, if any plants are wanted by way of contrast, I would strongly recommend the deep foliaged herbaceous *Lobelias*, the contrast being both striking and effective from early in May right away to late autumn. For sorts like *Anne Boleyn* and *Ascot* other subjects are not so easily found, as anything planted to contrast with the flowers would perhaps not be seen to the best advantage with only the foliage. If *Carnations* are employed in beds in prominent places where anything in the way of gaps has to be studiously avoided, it is well to defer planting until spring, and also, if possible, to have a certain number of each variety reserved in nursery beds from which to draw in case of failure. For beds of somewhat larger size than those already under consideration, a combination of *Pyrethrums* and *Tufted Pansies* may be strongly recommended. Bold clumps of the former in selected shades, as *Aphrodite* (white), *Solfaterre* (primrose), *Florentine* (blush-white), *Celia* (pink), *Ormonde* (bright rose), and *Melton* (crimson-scarlet), may first be planted, and the *Tufted Pansies* filled in in variety as the taste of the planter may suggest. A thorough soaking of water may be recommended if the weather prove hot and dry, when the beauty of the first flowers is slightly on the wane. By this means the old foliage is preserved until the young growth has made fair progress, and with the necessary attention given to the *Tufted Pansies* the beds will be attractive until quite the end of the season. The claims of *Antirrhinums* and *Pentstemons* have already been advocated in a note on plants obtained easily from seed. It is only necessary to add that they make very charming beds, and that their endurance will be considerably prolonged by a rather early removal of the central spike as soon as the bottom flowers show signs of dropping. Some larger beds can also be devoted to the earlier flowering *Phloxes*, of which very fine varieties are now available in colours ranging from pure white to a deep purple, many different shades in mauve, rose and pink intervening. I have noted "earlier

flowering Phloxes," but although they are earlier in flower than the section more generally known, they last a long time. If decaying pips are picked from the main truss, back buds will push their way to the front, and if the truss itself is nipped off, smaller spikes will develop from its base and prolong the display. Many more things might be advanced as suitable for the purpose in connection with the species already enumerated. There are, however, a wealth in colour and a variety in shade in these sufficient to make any ordinary sized formal garden gay from spring to autumn. I should like to suggest that in all flower garden arrangements it is advisable to choose flowering plants as much as possible rather than those things only noticeable for their foliage. I mean, for instance, that white Tufted Pansies, Pinks or Antirrhinums are preferable to *Dactylis glomerata* or *Centaurea candidissima*, and the dark-foliaged perennial *Lobelia* to *Iresine Lindenii* or the dark *Coleus*.

Seedling hardy plants noted in a recent number are now well on the move. Attention should still be given to partial shade during bright weather and (in the case of tiny seedlings) careful watering, the object being to keep the plants growing steadily without the tendency to draw. As soon as the young plants get a hold of the soil, by all means run through them to remove weeds. If the latter are allowed to make headway, their removal is only effected at the cost of considerable root-disturbance of the young seedlings. Home-saved seed of *Polyanthus* has come up remarkably well, and as it was saved from good strains in half a dozen different shades, I am looking forward to some fine flowers. E. BURRELL.

Claremont.

Pyrethrums.—It is surprising what a single crown of a *Pyrethrum* will do in a year provided it has not been starved in the pot a whole season; and all such having been lifted, divided, and planted into good rich ground, will be infinitely superior a year hence to a spade-divided clump five or six times the size. The quality of the blooms, as also the quantity, will also leave no doubt as to the superiority of the system now advanced. Like many other hardy plants that grow freely, these *Pyrethrums* may be left too long without division, and where this is the case the flowers are poor and insignificant. Three years as a maximum in one spot is long enough, and far better, as also easier of resuscitation, where a rigid system prevails of breaking the plants up into quite small pieces every two years. By following this method, there need be no lack of these fine border flowers in June.

Jankæa Heldreichii.—It may, perhaps, interest some of your readers to learn that this has this year for the second time flowered freely and strongly at Ketton. The position and the appearance of the plant are well shown in the photograph I send you. The plant has been where it now stands for, I think, six years and has not much increased in size; it showed no sign of flowering until last year, when there were some five blooms borne on three stems. This year there are five stems, bearing eleven flowers. The colour is deeper than that of *Ramondia pyrenaica*, which is growing near it. Another plant, bought a year or two before as a seedling, increased to several crowns, but was lost by being removed to a more sunny position, which it was hoped might induce a tendency to bloom, which it had never shown in its original and apparently more congenial shade. This species is, I am told, now scarce in the trade, and one is averse to running the risk of losing even one plant by experiments in cultivation. I shall be glad, therefore, if any person who has been successful in growing it can give information as to its wants and the best methods of propagating it.—(Mrs.) SUSAN H. BURROUGHS, 16, Lower Berkeley Street, W.

Garden Pansies.—Although many of the Pansies proper are of weak constitution and not able to hold their own against the tufted kinds, there is always the chance of raising something

fine in colour and vigorous in habit that is as hardy and continuous in flowering as the latter, yet preserving the round form and large size of the flowers. When I took charge here I found a seedling *Pansy* under an old espalier *Apple* tree that bloomed very profusely all through the summer, and propagated from it freely. It has been a glorious sight during the present spring, and is now a perfect mass of colour. The blossoms are mauve with bluish purple markings, but it is of a somewhat sportive character. The broad lines of mauve were a lovely contrast some time ago with the yellow *Alyssum saxatile* on each side a walk in the kitchen garden, and on another border I have had two-year-old plants—masses nearly a yard across—alongside various other spring flowers. All the latter, of course, are gone, but the *Pansy* is as brave as ever, and on account of this continuous blooming, the neutral tint of the flower that seems to go happily with anything else, and its splendid constitution, I would rather lose any other plant I have than this.—H.

Pink Mrs. Sinkins.—Although the flowers of this variety are larger and equally as sweet as those of the old garden *Pink*, there is still room for both. The continued rains have somewhat marred the appearance of both, but they are very beautiful in large clumps, formed by planting about a dozen young plants and allowing them to stand three years. The flowering will now be soon over and propagation may commence. They may be grown from cuttings easily, this being less trouble than layering, and where no reserve ground exists, it prevents the unsightly business of moulding up and pegging. The cuttings will consist of the short, stubby side growths stripped off with a little of the old wood, and my plan is to select a semi-shaded border and mix with the soil equal parts of old potting bench refuse and burnt earth, preparing this a few days in advance and watering well should the weather be dry. The cuttings are dibbled out rather closely and covered with hand-lights or small frame-lights. If lights are plentiful, a more open spot may be chosen, the cuttings inserted at greater distance, and the lights removed when the cuttings are well rooted. But here it is found more convenient to transplant to an open place as soon as well rooted, this resulting in strong, yet compact little plants for grouping as described, or with the *Mrs. Sinkins* for potting for early flowering. Where the soil is inclined to be heavy and bad working, the addition of leaf-soil, burnt refuse, or anything that will make it more friable is well repaid, and in this mixed class of soil the *Pinks* grow well. They like a sunny, open position.—H.

NOTES ON HARDY PLANTS.

Saxifraga Cotyledon gracilis.—So far as I have been able to find out, this third name has little or no printed authority, which is saying a great deal, as, perhaps, no genus of hardy cultivated plants has been more overdone with names authorised and unauthorised. Those, however, who knew the late Mr. Niven, of the Hull Botanic Gardens, will allow that he was no mean authority on *Saxifragæ*; his collection was complete, carefully named, and splendidly grown. I believe the present plant was one of his own raising; anyhow, I had it from him with the name as above. He said it would be worth looking after. It may be described as *S. Cotyledon* in miniature, a good kind, with both flower and leaf features to commend it, the flowers, like those of *S. Cotyledon*, pure white, the panicles dense, feathery, and only 8 inches or 10 inches high. The rosettes are slightly over an inch across, of a deep green shade, and vividly and evenly bedecked with silvery dots around the edges. It is a slow grower, but not apt to go off like some of the hybrid forms of the *Aizoon* section, like, say, *S. Macnabiana* or *S. Cotyledon* itself, which is very liable to take the *Saxifrage* fungus. I hope that others may have had the same plant from the Hull collection, and that it may

find its way into commerce, as it so well deserves.

Ranunculus Macaulayi.—Who can say if this is more than biennial, and even then if it is capable of living in a severe winter out of doors, and, worse still to my mind, it is not a plant of much promise, for all the great praise it came to us with? The fact that I ask these questions about it suggests that the plant may not have had a happy home here, and yet it has been in commerce now three or four years and nothing seems to be said of it.

Myosotis Traversi.—This is a dwarf and distinct *Forget-me-not*, its chief feature being the small yellow flowers. It grows here about 8 inches high, has an oblique habit with its dark-coloured, thick stems, which have blackish hairs. The stems are further notable from being much forked, long-jointed, and having a very few small leaves.

Phyteuma comosum.—When once you get this rare alpine going, it proves a reliable plant against either drought or wet, though it is a slow grower. The way in which it makes itself comfortable gripped between two stones and with its caudex well kept up not only enables it to withstand to some extent both heat and wet, but tends considerably to its interest as an object of special culture. A neater or more characteristic plant we do not possess as yet for the rock garden, nor a more charming or curious flower. Though a six-year-old plant might easily be covered by the two hands, and sometimes one hand, it manages to make itself conspicuous to anyone when in flower, its thick *Holly*-like leaves being just as distinct as its other parts.

Woodville, Kirkstall.

J. WOOD.

NOTES AND QUESTIONS.—FLOWER

Chalk for Gentiana acaulis.—In answer to "S. T.," *Ulverstone*, in *THE GARDEN* of June 19, we are very much on the chalk here. *G. acaulis* grows and flowers freely, but the leaves and blooms are not so large as I have seen them in richer soils.—W. H. S. M., *The Down House, Dorset*.

The white Foxglove.—In large borders near shrubberies or in any semi-wild position the pure white flowers of this plant are very effective, but if planted in the herbaceous border, care is necessary that it does not overrun and spoil choicer things. It is planted here in a long border principally devoted to *Rhododendrons*, which is top-dressed annually with leaf-mould, and it makes immense plants that are very fine seen from a distance.—SUFFOLK.

Gentiana acaulis in peat.—A lady recently told me that with her the *Gentianella* succeeds remarkably well in pure peat, the plants increasing and blooming freely. I must confess that I should never have thought of using peat for this hardy flower, which I have always considered benefited by the presence of lime in the soil. We thus see how impossible it is to lay down fixed rules with respect to the rooting medium best suited to any particular plant. The plants in question are set round a *Rhododendron* bed, a good position for anything that the soil suits.—J. C. B.

Three good showy hardy border plants.—The old double white *Rocket* (*Hesperis matronalis flore-pleno*), *Lychnis Viscaria splendens fl.-pl.*, and *Campanula dahurica* are valuable in the hardy plant border at this season of the year. In these three plants we have three decided colours—rose-pink, deep blue, and white. They are also useful for cutting and will stand a long time in water. Another recommendation to them is they do not need a lot of stakes to keep them up. They are easily propagated by cuttings or division. To see these at their best they should be grown in big masses from 2 feet to 4 feet across.—DORSET.

Lilium pomponium verum.—Towards the end of June this *Lily* is at its best, and in the border it makes almost as bright a show as will *L. chalcedonicum* later on. It reaches, as a rule, a height of a yard or more. The individual

flowers are thick in texture, the segments gracefully recurving, as in the different members of the Martagon group. This Lily does not increase very quickly. The smell of the flower is heavy and unpleasant. In any selection of hardy border Lilies this should have a place. Though belonging to the Martagon group, the leaves are not arranged in regular whorls as in the true Martagon. H. P.

DESTROYERS.

THE ASPARAGUS BEETLE.

(CRIO CERIS ASPARAGI.)

ACCORDING to a leaflet just issued by the Board of Agriculture, this beetle often does much harm to Asparagus, especially in beds which have been established from one to three years, by eating and disfiguring the heads as they are formed, and later on by attacking the stems and seeds, of which it is particularly fond, both in the beetle and larval stages. In the beetle stage the insects bite the tender Asparagus heads while these are yet underground or only just showing above the ground, making brown patches upon them and spoiling their appearance for market. Later on the beetles eat the feathery shoots of the plants, as well as the large round seeds, to which they are very partial. A beetle will eat a considerable quantity of the tender feathery shoots in the course of a day. The larvæ are also most voracious, and sometimes, in bad cases of infestation, the long stems of the plants are left completely bare of foliage by successions of larvæ. The Asparagus beetle is common in the southern, eastern and western parts of England, but it is rarely found in the northern districts. Canon Fowler, in his Coleoptera of the British Isles, states that he does not know of a record from any locality farther north than South Derbyshire. It is known in France,* Germany and Italy, and probably throughout Europe. In the United States, where it was introduced from Europe in 1858, it has spread very rapidly. It was first seen at Astoria, in Long Island, where Asparagus is largely grown, and by the year 1862 the beetle had spread throughout the Asparagus beds of Long Island.

LIFE HISTORY.

The beetle is about a quarter of an inch long and comparatively narrow in width. Its body is shiny black, with a blue tinge; its head is black; its ten-jointed antennæ are dark brown; its thorax is red, with two black marks or lines upon it; and its wing-cases have outer margins of orange colour and black inner margins, and there is a transverse bar of black across them. Upon each wing-case there is a row of three yellowish or lemon yellowish spots or patches, which, with the transverse bar and the black margins, form the figure of a cross; hence the beetle is termed "Cross-bearer" (the French call it "Porte-Croix"). Eggs are laid by the beetles in the early spring upon the heads, shoots, and feathery foliage of the Asparagus plants. The eggs are brown, long, and somewhat cylindrical, being glued by their ends to the plants, usually in rows of three to five, but frequently they are placed singly. Larvæ come forth in from eight to ten days, and immediately begin to feed upon the Asparagus. The larval stage lasts for fourteen days, or for about this period, when the larvæ fall to the earth and undergo transformation just beneath its surface in a slight cocoon. The number of broods

appears to depend upon the weather and the supply of food. Beetles and larvæ are frequently found upon the plants until the middle of October.

The larva, which is about the fifth of an inch in length when extended, is of a dark olive-green colour, and usually has a black mark upon its back. It is thick, fleshy, and somewhat slimy, with a shiny black head and three pairs of shiny black legs; the lower end of its body is unusually prolonged to help locomotion and to enable the larva to cling to the stems and shoots of the Asparagus. There are also two rows of tubercles along the body, which have the appearance of rudimentary pro-legs. It has not been definitely decided whether this insect hibernates in this country in beetle or pupal form, but the evidence tends to show that here, and in other European countries, it exists during the winter in the latter form in the earth. The majority of the American entomologists, including Fitch, Lintner, and Chittenden, hold that the winter is passed in beetle form. Dr. Lintner says: "The beetles destined to continue the species survive the winter in dry sheltered places, as beneath bark, in crevices of wood, and under the boards of buildings." If hibernation takes place in the pupal form in England, the transformation occurs very early, as the beetles attack Asparagus plants directly they shoot and before the heads are above the ground, and, as is well known, Asparagus begins to shoot after the first few warm days in spring.

METHODS OF PREVENTION AND REMEDIES.

In the first stages of this attack, that is, when the beetles are underground and feeding upon the juicy parts of the heads of the Asparagus as they are formed, it is difficult to deal with them, though at this period they do considerable harm by making the heads brown and spotty. It is desirable to leave a few heads uncut in every bed where there is infestation as traps for the beetles, which get up the feathery shoots and branches during the day for pairing and the deposition of eggs. In the course of eight or nine days these plants should be brushed off close to the ground and burnt. Another set of heads should be allowed to run to shoots, which should also be brushed off and burnt. Beds of young Asparagus plants are most liable to this attack in the first year or two, when only the strongest heads are cut for market, as the beetles like the succulent shoots of young plants. It would seriously injure the stocks in newly-made infested beds to cut off their shoots. In such cases it would be better to beat the feathery shoots smartly with sticks, and to tread heavily round the plants to crush the larvæ. Very finely powdered lime dusted on infested plants would also be efficacious, as it would adhere to the slimy bodies of the larvæ. The lime should be applied as soon as the larvæ are noticed, and the application repeated at intervals. In small beds, and in beds of young plants, hand-picking, both of beetles and larvæ, would be useful, but this operation is too costly where Asparagus is largely cultivated. In extensive beds the remedies to be employed are liming and beating infested plants and trapping, as indicated above, by letting some heads grow into plants and brushing them off and burning them. Syringing can be adopted in gardens. Where Asparagus is grown upon a large scale this process is more difficult, as the plants are not set in rows, but it may be effected by means of knapsack spraying machines. Kerosene emulsion, consisting of two gallons of kerosene oil and half a pound of soft soap dissolved in a gallon of soft water, may be used for

spraying. The soap should be boiled, and while boiling the kerosene should be poured into it and churned up with the soap until it is thoroughly incorporated. The mixture should then be diluted with 15 to 20 gallons of water. Paris green is also a valuable remedy against these and other insects which feed upon foliage. It may be used at the rate of one pound of Paris green to 200 gallons of water. It is better to put one pound of fresh lime with the Paris green. This mixture can also be put on with a knapsack machine. As this is poisonous, it should not be used till the Asparagus has been all cut. Spraying should be carried out before the foliage has become thick and strong. It will be necessary to repeat this operation, and it would be effective against both beetles and larvæ. It would be desirable to examine the roots of Asparagus obtained for making new beds, as the pupæ may be conveyed in these. In the United States infestation is extended in this way.

GARDEN FLORA.

PLATE 1178.

TULIPA KAUFMANNIANA.

(WITH A COLOURED PLATE.*)

AMONG the many rare and beautiful species of Tulip in cultivation in our gardens to-day the above holds a foremost position in point of merit, as also in the handsome appearance of the plant when in flower. As may be gathered by a glance at the unopened bloom in the accompanying plate, the flower is of large proportions generally, an item which good cultivation appears steadily to favour as the species year by year become more and more naturalised to British gardens. It frequently happens that some of the earliest flowered examples of any particular species do not impress one with either their distinctness or the representations that may have accompanied or preceded the importations that any given kind is likely to prove an acquisition. Further experience and acquaintance of the kind have, however, proved the reverse. The species now under notice is one of those that with its earliest flowering gave indications of a rather inferior article, while the flowers that have resulted from cultivated bulbs fully bear out the remark at the head of these notes. Among the early kinds it is certainly one of the most handsome and as striking as it is distinct and pleasing. For several years past the species has flowered grandly both at Kew and at Ditton, and, as far as could be determined by growth and flowering, it is a good doer, generally strong and robust, in each of the instances referred to. The species shows but little inclination to vary, and at Kew, where during the past year or two a nice little group has flowered well, the same characteristic is prominent. In the "Dictionary of Gardening" this species is described as having a "bright yellow perianth," and the segments oblong, acute, "without any basal blotch." Two varieties are also described in the same work, but none of these generally agrees with the flowering examples I have seen, and of which the coloured plate to-day is a faithful reproduction, with one exception, perhaps, and that the pure white shade to which prominence is given in the flower on the right hand side of the picture. Indeed, it is the creamy white shade of the broad reflexing segments, coupled with the golden orange base, that renders the

* Boisluval says that the Asparagus growers of Argenteuil, in France, complain that it is very detrimental to their Asparagus culture.

* Drawn for THE GARDEN by H. G. Moon. Lithographed and printed by J. L. Goffart.



TULIPA KAUFMANNIANA

flower as a whole so very conspicuous, if not unique. The widely-open flowers are often of great size. In the bud state, too, the reddish carmine tint that pervades the margin of the outer segments, so well shown in the plate, is very attractive.

So far as its culture is concerned, it differs in no wise from other kinds, all of which prefer good deep soil. *T. Kaufmanniana* is a native of Turkestan, and when in good condition attains 8 inches or so high, flowering usually at the end of March or early in April. Apart from the forms referred to above as mentioned in the "Dictionary of Gardening," and which, according to the names, have white and yellow variegated flowers respectively, is a third kind, called *T. K. pulcherrima*, said to be probably a hybrid between the above species and the well-known and gorgeous-flowered *T. Greigi*. This I do not remember to have seen. It is, I believe, one of *M. Max Leichtlin's* introductions, who may be able to give some information concerning so interesting a cross. The following are worthy companions to the above handsome kind: *T. Batalini*, a lovely soft yellow; *T. Kolpakowskiana*, vermilion, very striking; *T. saxatilis*, rose and yellow; *T. violacea*, the earliest flowering of all, colour reddish carmine; *T. vitellina*, pale primrose; and *T. retroflexa*, a lovely clear soft yellow.

E. J.

THE WEEK'S WORK.

KITCHEN GARDEN.

SPRING CABBAGE.—Preparations must now be made for the spring supply. Most growers do not care to rely upon a single sowing, as, if too early, the plants get too large and run. Again, if too late, the plants are not strong enough to stand our variable winters. As regards varieties there is no need to complain, as, given good soil at the start and attention to the plants, there will be few losses. This spring I do not know what I should have done without a good breadth of spring Cabbage, as the green crops ran to seed quickly, and the Cabbages, though a little later than usual, were most serviceable. I began cutting *Ellam's Early Dwarf* the second week in April. I do not think there is any Cabbage to beat *Ellam's* for spring use. I am aware there are others which run it very close, but those who do not care for variety may rely upon the kind named. The nearest in quality and earliness I have grown is *Sutton's Earliest*. This, like *Ellam's*, is remarkably dwarf, with scarcely any outer leaves, and *Favourite* is also valuable for sowing at this season. In the north, *Mein's No. 1* is a great favourite and an excellent variety. This with me is a little later than *Ellam's*, but equal in quality and very hardy. I make my first sowing during the second week in July, and place much importance upon the date, as it makes a great difference in the size of plants. It should be borne in mind that a friable soil well manured is needed, as the seedlings must make a quick growth. I always sow broadcast and allow ample space, and, should the weather be dry, moisture will be needed to assist germination. In light soil I find it advantageous to make the seed-bed fairly firm, and by so doing the plants can be lifted with more fibrous roots, and do better. In heavy, clay land one may with advantage improve the seed-bed by incorporating any lighter soil. I have used old potting soil and limestone road scrapings to advantage. I always make a second sowing from the 20th to the 30th of this month of the same varieties, as, should the plants from the first sowing be too large, these never fail. On the other hand, there are considerable advantages in sowing twice, as from the earlier one heads may be cut at the end of March in a favourable season; the latter will give a succession. I

plant a smaller portion of the first sowing than the second if the plants are at all large when ready to plant.

CABBAGE QUARTERS.—It is full early to refer to the planting before the plants are through the soil, but it is not out of place to advise as to the quarters needed for the plants. My earliest Cabbages invariably follow spring-sown Onions. This crop is much later than usual, but will be cleared in time for the above plants. By utilising the Onion quarter, the Cabbage is given the treatment it needs to build up sturdy plants, as mine being a light soil, it is made as firm as possible for the Onions, and the cleaning and thinning during growth make the surface firmer, so that it is in good condition, having been well manured for the Onion crop. I merely clean the surface, draw drills, and plant, as I find with a firm root-hold I do not lose one plant in a thousand by running, and severe frost does much less damage to plants grown hard from the start. Plants in recently-manured land make a soft growth. These lose a large portion of their leaves in bad weather, and are much weakened in consequence. Many may not be in a position to give the quarter I have advised. Early next spring when growth begins I feed freely with liquid manure, or with guano and fish manure failing the first-named. Small plants, like Cabbage, do not need strong manures at planting, as, having the winter to tide over, if too gross they bolt, and it is an easy matter to feed early in the year.

COLEWORTS.—I advised a small sowing of this useful vegetable a few weeks ago, and owing to the rainfall we have had of late, the plants will soon be in condition to plant out. It is surprising how quickly these plants grow when put out. Good land will give the best returns, as, unlike spring Cabbage, the earliest Coleworts may be cleared by November, so that it will be necessary to give land a good coating of manure to get a quick return. Though many only make one sowing, much better results are secured by having a succession, so that another sowing at the middle of this month will give ample planting material. In planting at this early season, 15 inches apart in the rows and 9 inches to 12 inches between the plants will be sufficient, the Rosette variety needing less space than the Hardy Green variety. This latter I advise for a later sowing, to give a supply before the spring Cabbage turns in. Coleworts do well on land just cleared of early Potatoes, and, if manure is none too plentiful, any good fertiliser may be used previous to planting. I spread on the surface and then lightly fork in.

LATE DWARF BEANS.—These are most useful in the late summer months, and if sown thinly there will be a good return. Many rely on the crop sown earlier for a supply, but the plants by the end of August are exhausted, and oftentimes red spider so attacks bearing plants in hot, dry weather that I have found it much more profitable to make sowings at this season for a full supply in late August and through September. My late Beans are now being sown on land that has borne a crop of Cauliflower. The position is a sheltered one. I advise a sheltered place, as should we get frost early in the autumn it is an easy matter to cover some short rows of dwarf Beans to eke out a supply. For present sowing, *Ne Plus Ultra*, *Perfection*, and *Early Favourite* are excellent kinds. The two latter produce larger pods than *Ne Plus Ultra*, but are dwarf and very prolific. If a large Bean is desired *Canadian Wonder* is one of the best, but it is not so good for late supplies as for summer cropping.

LATEST CROPPING PEAS.—For a supply from September to October it is well to sow the early kinds. It is now full late to sow tall kinds of the *Ne Plus Ultra* type. For this crop it is well to manure the land, a quick growth being necessary. My late varieties follow the early Potatoes, and being well manured the land will be in condition for a spring crop of early roots, such as early Turnips and Carrots. For present sowing *Chelsea Gem*, *May Queen*, and the *Michaelmas Pea* are excellent varieties, and do not take

mildew badly. These sown 3 feet apart and rather thin in the row will give a good return at the season named. To save time in dry soils I have soaked the seeds for a few hours previous to sowing, and secured a much quicker growth. Peas sown now need more care at the start, as birds are troublesome in country districts, and netting is a necessity. Drought also is a great enemy of the autumn Peas. It is well to sow in shallow trenches in light soil, and if labour is scarce it is a good plan to lay manure in the trench previous to sowing, placing a little of the top soil over the manure. If there is any doubt as to the vitality of the seed, it is well to sow thicker and thin after, as it will be too late to sow again if failures occur. As regards the position, much depends upon the soil and locality.

GLOBE ARTICHOKE.—These are now making a free growth, and will need feeding to get the best results, as, unless the heads are fleshy and succulent, they are not so valuable. Now is a good time to mulch with a fair thickness of rotten manure if the soil is light. I use cow manure, and find it of great benefit, as it keeps the roots cool in hot, dry weather. Few plants will better repay copious supplies of water or liquid manure, as owing to the abundant leafage the rain does not readily reach the roots. I mulch and then use the hose freely in dry weather. One thorough watering weekly will suffice, and the plants will give a large quantity of heads if kept well supplied with moisture. These plants will often produce too many heads, and in poor soils they will need thinning. It is also advisable to cut out the old stalks close to the soil after cutting, as these impoverish the plants if left.

LEeks FOR SPRING USE.—I grow a goodly number of these for use in the early spring, as, unlike many other vegetables, these will continue growing through a mild winter. I am not much in favour of growing the huge roots often seen at exhibitions. Those late in the spring are poor in quality. There is no difficulty in keeping Leeks well into May if the roots are grown for late supplies. The Leek is most useful at the time named, as the green vegetable crop is getting scarce. An open quarter is best, and a liberal dressing of manure is needed. Many grow in trenches, and in light soils drills have advantages, as the moisture and food are more easily applied. Excellent roots may be grown on the flat in rows 15 inches to 18 inches apart. Previous to planting I have found it a good plan to draw drills. In planting, care should be taken to place the roots quite straight if a dibber is used. S. M.

HARDY FRUIT.

STRAWBERRIES IN THE OPEN.—**LAYERING FOR FORCING.**—In some cases this important work will by this time be well advanced, and in favourable localities, perhaps, finished. If so, all the better, as far as getting the work forward is concerned; but those who have had long experience know in practice that if all of the potting up into fruiting pots be completed by the first week in August, they will have nothing to fear as far as vigour of the plants and well-ripened crowns are concerned. All layering for forcing should certainly be completed by the middle of the month; therefore during the coming week it should be the important operation to be borne in mind and pushed forward. Commence by securing clean or as clean pots as possible (time in many cases will not allow washing now). Drainage may be dispensed with as superfluous, nothing beyond a small amount of Moss or rough soil, decomposed leaf soil, for instance, will answer the purpose well. Make the soil tolerably firm, however, so that the ball does not break to pieces when the transference into fruiting pots takes place. Old Melon bed soil of last year if still in reserve will answer well for layering, as a little manure in it will encourage root action, but do not in any case use any soil that may come to hand, for a good start in root growth is an all-important matter. Leave sufficient room when filling the pots for

watering. Some growers fill them full; this is a mistake, as may be seen at a glance; the trade even are apt to do this, and thus the young roots suffer. Either pegs or the time-honoured stone will answer for securing the runners. The pegs will hold the runners more securely where layering is being done upon beds still in bearing condition, but in other instances I prefer the stones, for the simple reason of expediency and of keeping the soil both moister and cooler where immediately in contact with the primary roots. Never depend upon second runners (*i.e.*, the secondary runners from the first ones) if enough of any kind can be had without its being done, as these never make quite such good plants for forcing. Rather cut them all off as the work goes on. Attend well to the watering every morning when it promises to be a hot day, and always every evening as the sun leaves the beds. In a fortnight, or at the most in three weeks, all runners that are well cared for will be fit for potting. As regards varieties there are a few which stand out prominently, as may have been noted by the readers of *THE GARDEN* from time to time during the forcing season now ended. Royal Sovereign is pre-eminently the first one to be chosen for the main stock of plants. It makes its runners in good time, and vigorous ones, too, if the plants be in good health. Last year my first stock of Royal Sovereign was taken from plants that had been forced and turned out six weeks or so previously. This year, however, the plants so planted out, instead of making runners, spent their energies in the production of a crop of flower-trusses, and that in spite of bearing good crops whilst in pots. Thus one cannot always depend upon the result of the previous year's experience. Last year the runners so taken were prominent the whole season through by their sturdy and well-advanced appearance. Next to the variety just named comes La Grosse Sucrée, which for first early crops in some cases has proved to be more reliable; it has with me. Its chief value is apparent for ripening up to about the third week in March. With me it does not make runners so kindly as in the case of Royal Sovereign, but not nearly so many are required. The chief value of Vicomtesse Hélicart de Thury is its greater reliability for autumnal fruiting when planted out—at least this is my experience of it. By some the fruits of this variety are preferred. Where this is the case by all means grow it and as well as possible. For later uses after the stock of Royal Sovereign is spent, three excellent kinds may be found in British Queen, Latest of All, and Gunton Park.

STRAWBERRIES NOW FRUITING AND OTHER STOCK.

—Amongst these there will not be much to be done now, save to keep down the weeds where any appear and to water late varieties if they stand in need of it. Late kinds, as Latest of All and Waterloo, require a liberal supply of water for them to perfectly develop their crops. In spite of liming, slugs are still giving some trouble, so I have placed some more litter around the plants where the fruit was not too far advanced. Placed around each plant in the form of a support to the spikes which are borne down by their weight close upon the first mulching, this will help to keep the fruit cleaner and fresher. Whilst attending to the layering for forcing do not overlook the fact that layers from pots make the best plants also for new plantations in the open. It may take a little longer time even when work is pressing in other directions, but it is worth the effort to accomplish it, and in any case it should be done as soon as the crop is cleared off. Of course, where room can be given up to growing a stock of plants on purpose for layering, the flower trusses being cut off, it is the best plan to adopt, and I doubt not it might well be an extended practice, as more vigorous and rather earlier runners can thus be had. Where the old plants from forcing have been put out the watering must be regularly attended to until it is seen that they are well established, and even occasionally afterwards. Alpine Strawberries raised this year from seed are now establishing

themselves, after having been pricked out into Celery boxes, being for a few days kept close in cold frames. In another week these will be well exposed to keep them as sturdy as possible. Those a year older are now being gone over, all the flower trusses being removed to give them more strength for autumn cropping. These will then come into fruit towards the end of August or a little earlier perhaps. A mulching of leaf-soil, road scrapings, and old Mushroom-bed manure, into which the roots will soon find their way, is also being given. The mulching with clean litter will then follow as speedily as possible, the beds thus being completed for the time. Plants of the Alpine Strawberry that are two years old or a little more from seed are now bearing heavy crops and will continue to do so until the end of August. This year again these were ripe with Royal Sovereign. Do not attempt to raise a stock of the Alpine Strawberries from runners taken from old beds; it is utter folly to do it. This is the chief reason why the Alpine Strawberry has never been more popular than it has. Never go beyond taking runners from the seedling plants direct. It is worthy of note, however, that strong runners, if now taken off with roots and potted up into 4½-inch pots, being afterwards plunged in the open, will when well established give a late crop of fruit this season from the middle of October onwards for a few weeks. Those who are growing the new French Strawberry St. Joseph will do well to secure the runners early and prove what this variety is capable of accomplishing. I have taken all the runners and intend to give it a thorough trial for late forcing. By its appearance it will only need 4½-inch pots: it may, however, gain in vigour when rapid propagation is not resorted to for the necessary increase of stock.

AUTUMN RASPBERRIES, &c.—Give attention to these as may be needed. With me water has to be applied liberally, and mulching will soon have to be done. This, if done too early, might cause the growth to come away too strongly, and consequently not terminate in every case in flowers and afterwards fruit. The growths had better be thinned out where at all thick, sufficiently at any rate to admit light and air. This season I am trying what can be done to secure an autumn crop of Raspberries by cutting down a row each of Superlative and Hornet. At any rate, it is worth the trial if only a partial crop from these prolific kinds can be thus obtained from established plants. Other Raspberries newly planted should be well attended to for water and be mulched as well. Old plantations should be cleared of all old growths as soon as the present crop is all gathered, and the young canes be thinned out also.

THE BLACKBERRIES, represented by the cultivated forms, as the cut-leaved Bramble and the American kinds, are useful additions and worth attention when room can be given up to them. The former, in fact, is both ornamental and useful, being an acquisition to the wild garden or for the covering of rustic work, the forming of screens, &c., by reason of its very pretty foliage, with the knowledge that a crop of fruit will almost assuredly follow. Wilson Junior is an earlier variety than the cut-leaved, being almost over when the latter is ripe. A succession is thus secured. So far the Wineberry (*Rubus phoniculatus*) with me gives indications of fruiting very well, but like others of its class it evidently needs moisture. Of its utility more anon, but merely for ornament it is worth growing.

INSECT LIFE.—The trouble occasioned by aphides this season appears to be almost an universal complaint amongst gardeners. As far as I am concerned, I have had occasion to congratulate myself that strong doses were given in the winter to almost everything, and again some six weeks or two months back as occasion seemed to require it. Thus, for instance, the Cherries that were dressed with a strong solution of quassia extract about two months back have not been troubled much with the black fly, and these are dealt with as they appear. Upon Peaches and Nectarines

the green fly has now been conquered. It was late this season before daily syringings could be safely given. The paint-brush follows up the American blight still with extra strong doses, as no half measures will suffice. **HORTUS.**

ORCHARD AND FRUIT GARDEN.

APPLE CROP IN 1898.

THE peculiar weather experienced in this district during the month of May considerably marred the earlier favourable prospects of a fruitful year, for we had not only to contend with dull days and frequent showers, but on several occasions severe frost in addition. Many of the trees now present a pitiable condition, the leaves being covered with mildew and the trusses of flowers withered up as though they had been scalded. There is, however, some satisfaction in looking over the trees to find that the prospects are not quite so bad as at first sight appears, though a good many varieties are a total failure. With me the kind that seems to have suffered most is Cox's Orange Pippin, the most of the leaves, owing to the mildew, are now falling off. This is not only the case with old standards and bush trees that are well established, but also with young ones that should be full of vigour. Many others of the more tender varieties have suffered in like manner, though not to such a serious extent. The orchard here contains about 100 different kinds of Apples, and after going carefully over them I find there are many that have no fruit at all, while others have a fair sprinkling, and some have heavy crops. The first to bloom with me was the Irish Peach. The flowers having opened during favourable weather there is a good set, the trees being heavily laden with fruit. Worcester Pearmain is also good, likewise King of the Pippins, Rosemary Russet, Yellow Ingestrie, Golden Nonpareil, Adams' Pearmain, Mannington's Pearmain, Egremont Russet, Brownlee's Russet, and some others. Turning to the best of the cooking varieties, I find Lane's Prince Albert well to the fore, while Mere de Menage, Keswick Codlin, Warner's King, Ecklinville, Loddington, Seaton House, Domino, Frogmore Prolific, and some others are first-class. Many of the popular varieties have scarcely a fruit on them. It was not altogether the frost that played such havoc with the blossom, for the dull, damp weather was accountable for many of the flowers failing to set, the pollen seldom being dry, as there were only eleven fine days between the 26th of April and the 6th of June, though on one occasion the mercury fell to 25°. It would seem that some varieties are much more tender than others, as the various kinds growing side by side testify. Bramley's Seedling, for example, growing by the side of Ecklinville has scarcely a fruit on it, while there is not, as far as I can see, a single fruit of Gascoigne's Scarlet, Grenadier, Peasgood's Nonsuch, Baumann's Red Reinette, and many others so often seen on the exhibition table. Wellington is no doubt one of our best cooking apples, but with me the crop is very short this season, while the two most prolific are Irish Peach and King of the Pippins. For supplying the market, doubtless a few varieties that do well in the different localities are best, but for private establishments a collection of the most useful kinds is to be preferred, as there are far more chances of keeping up a continuous supply in this way than by putting all the eggs into one basket, as it were. In some seasons Kerry Pippin is one of the most prolific bearers, but this year with me the crop is short. There is also an advantage in planting trees irregularly, that is, instead of planting each variety by itself, mix them up as it were, then the possibility is that some trees will flower a little later than others, and thus bear a crop where those that bloomed earlier failed. There is also much to be said in favour of planting trees for shelter, both at the blooming period

and when the fruit is ripening.—H. C. P., *Buckled Park, Sussex.*

The remarks of several correspondents from different parts of the country (widely apart) on the Apple crop—in some cases very favourable, in others quite the reverse lead to the inference that the crop is likely to be partial both as to locality and in different varieties. Personally I have not much to complain of, although the amount of fruit will be small in comparison with the extraordinary set. The fruit apparently set well, but on looking round bushes, pyramids, and young standards with the view to thinning, I find Nature has already performed the operation or is about to do so. It seems to me that some peculiar atmospheric influence must have been at work when certain varieties were on the point of setting, for whereas sorts as widely apart as Cox's Orange, Duchess of Oldenburgh, Adams' Pearmain, and Northern Greening are carrying capital crops, others as French Codlin, Blenheim, and Claygate Pearmain are very thin. Writing of Cox's Orange reminds me to ask if any correspondent can suggest anything to prevent birds attacking the fruit of this variety and also Ribston and Cornish Gilliflower. I am troubled both with tits and blackbirds, and the latter, as soon as the small fruit is over or they are kept away from it by netting, attack with an instinct that is akin to reason the choicest varieties. The trees are scattered about, and netting is consequently hardly practicable. I should be glad to know if coloured wool threaded about the trees, bright pieces of tin that will sway with the wind, or anything else have been tried, and, if so, with what result. I am loth either to shoot birds or rob their nests, but in some seasons they are a great nuisance. All kinds of wall fruit are attacked unless netted, and last season they were helping themselves freely to Figs until these, too, had to be covered. Returning to Apples, one good point may be mentioned, and that is the absence of maggot, so we may reasonably suppose that the fruit obtained will be clean and sound. In looking through an old number of the Horticultural Society's Journal that contains an interesting paper on "New Fruits of Recent Introduction," I came across a suggestion that the Nanny Apple should always be included in a list of the best, and an answering remark by Mr. Bunyard that it seldom cropped. Possibly this applies, as in the case of the Blenheim, to young trees. I remember two very old standards at Petworth that cropped wonderfully well.—E. BURRELL, *Surrey.*

SCARCITY OF GOOSEBERRIES.

"WILTS" complains of having but a light crop of Gooseberries, and attributes this to the frost and cold winds. He also invites correspondence with the view of ascertaining how other counties have fared in the matter, and I most gladly oblige him with the necessary information regarding this portion of the county of Hereford, where Gooseberries are grown in large quantities both for private use and for market. Fortunately, we experienced but little frost during the time the bushes were in flower, but very cold winds were blowing more or less the whole of the time. I was afraid that this would affect the setting, but, contrary to expectation, heavy crops resulted—heavier, in fact, than any we have experienced for some years past. Under the influence of more genial weather the berries and bushes grew away quickly, and gathering was commenced by the middle of May. Since then gathering has been general, and large quantities of fruit have been despatched to the large towns. This has afforded a great deal of light labour to women and girls, and persons driving through the district have witnessed a busy scene daily. The crop in these gardens is equally as satisfactory in every respect as that in the plantations. The bushes of Whinham's Industry, also a great many of Warrington and Rough Red, have already been stripped—the former for cooking and the latter for preserving. These I grow by themselves and

away from those bushes on which the fruit is allowed to hang and ripen, the latter being in one block for the convenience of netting. To name any variety as bearing more heavily than another would be a difficult matter, so evenly are they all cropped, but I may mention that Whinham's Industry and Keepsake are the best early sorts. The bushes are making a great deal more growth than usual, and for this we are indebted to the heavy rains which fell in May and the early part of June. They are also clear both of aphids and caterpillars, which is a matter for congratulation. This immunity from attack I attribute to having applied lime for several years in succession to the surface of the soil under the bushes, by which means the pest seems to have become practically exterminated.

A. W.
Stoke Edith, Park.

GRAPE MADRESFIELD COURT.

WHEREVER finely-flavoured early and mid-season Grapes are in demand this variety should be planted. The long tapering bunches and distinct shape of the berries are well known, and well coloured examples are always appreciated. The foliage is deeply cut and takes on a fine colour in autumn, making it a good kind for supplying leaves for dishing up, and if a little growth is allowed to ramble by the front lights, these will be plentifully produced. It is peculiarly liable to cracking of the berries, this often following a careless mode of stopping the laterals and the removal of a lot of foliage and shoots at one time. This is bad practice for any variety, but if followed with Madresfield Court the cracking spoken of is almost sure to follow. Many Vines are allowed to make too much lateral growth, and although when this Grape is finishing it is all the better for a somewhat free lateral growth, at other times the principal leaves must not be crowded, nor must they be allowed to run wild. The laterals should be rubbed out of each joint below the bunch, the shoot stopped at the second or third joint beyond it, according to the distance the Vines are planted, and all resulting shoots kept rigidly pinched to the first leaf, not as soon as the latter can be seen, but before the shoots get at all woody.

After thinning and the fruit has begun to take its second swelling this Grape requires plenty of water, but when the colouring has fairly commenced it may easily be overdone. A moist atmosphere is more necessary at the earlier stages of colouring than some growers seem to think, and the sudden change from a moist to a very dry state of the atmosphere has done a great deal towards causing the wholesale cracking observable in bad cases. Harsh, dry air coming through a ventilator right against a bunch of thin-skinned Grapes will cause the side nearest the ventilator to crack badly, while the opposite side of the bunch will be perfect. I remember a very bad case of this in a well-known fruit-growing establishment in the south of England. The vineries were three-quarter spans facing south, and, of course, ventilated principally from that side at the apex of the roof, the ventilation being continuous. One very hot day I incautiously opened the small ventilators on the other side, one of which was just opposite a Madresfield with the fruit about half coloured. Next morning all the top bunches had gone as described, and this has always been a lesson to me on ventilation for this variety. Black Hamburg, Buckland and other Grapes in the same house were uninjured. Later when the fruit is nearly finished there is less risk, and more air and a drier atmosphere will be gradually brought about. It is not a good keeping Grape so far as colour is concerned, the berries taking on a reddish tint after they are quite ripe. This makes it especially suitable for early houses that are cleared at once. A good mixture will be found in Muscat of Alexandria, Madresfield Court and Black Hamburg, the first-named being planted at the sunniest end of the house, the others in rotation as named. The Madresfield

will be found the best grower of all and an ornamental Vine even in the earliest stages.

GROWER.

Cultivation of Vanilla.—The cultivation of Vanilla, according to the last bulletin from Kew Gardens, dates back to about twenty years ago, and is only now beginning to be thoroughly understood. The Mexican system of allowing the vines to grow under trees nearly wild is almost universally adopted at present, and is a decided improvement on the old system of training the vine on artificial supports. Nothing pays better than Vanilla. Its production costs the planter Rs3 per pound, and as prices vary from Rs8 to Rs16 the pound, a net profit of from Rs5 to Rs13 is the result. This year the average price was Rs15 the pound. The yield may be taken to be 200lb. an acre. Taking, therefore, an average of Rs10, an acre of Vanilla should produce Rs2000. Most of the land in Seychelles is in the hands of private owners, and it is difficult to estimate its cost, but it may be taken that land can be bought at from Rs100 to Rs200 the acre. It has been stated that landowners are reluctant to part with their land, but not much difficulty need be apprehended on this score provided that purchasers are prepared to pay ready money. There is some land belonging to the Government well adapted for Vanilla cultivation which can be leased for periods varying from nine to twenty-one years. Seychelles is, unfortunately, almost a *terra incognita*, but there is little doubt that if the scores of young Englishmen who leave the mother country year after year for other lands knew of it, they would give the preference to an English colony which offers advantages not to be met with elsewhere for the investment of small capital, say £1000.

TREES AND SHRUBS.

CLIMBING HONEYSUCKLES.

(LONICERAS.)

THERE are few hardy climbers that possess so great a charm as the Honeysuckles. Our native species, *L. Periclymenum*, the common Honeysuckle or Woodbine, is, on the whole, perhaps the best. At this season of the year it is one of the greatest of the many delights of an English country lane, not only because of the beauty and exquisite fragrance of its flowers, but also for the many poetical associations that cluster round the name. Most of the species mentioned in the following notes are of the same type of growth. With the exception of *L. japonicum*, they belong to the section of *Lonicera* known as "*Caprifolium*," which can be roughly distinguished by the flowers generally coming in whorls at the ends of the shoots, and by their climbing habit. Every one of them is worth growing, and they are, collectively, of greater value in the garden than the bush Honeysuckles, which constitute the section "*Xylosteum*," and of which the commonest example is furnished by *L. tataricum*. They are easily accommodated in gardens, preferring a rich soil of an open quality, plenty of moisture, and a position fully exposed to the sun. In the open border they can be trained up rough posts of Oak or Elm, which are all the better if rough snags a foot or so long have been left on them. Perhaps they are most charming when grown as Nature suggests—that is, when allowed to clamber over other shrubs and small trees. The American species of the glauca type, however, are not so suitable for this method as our own native species, being of shorter, sturdier habit and having thicker foliage. The accompanying engraving shows very delightfully the natural style of growth. On the other hand, a more luxuriant growth and finer flowers are obtained where the plants are grown away

from other things, and where their roots have their own domain, and the upper growth full exposure to sunlight and air. This season we have been very much troubled with aphides, and it has been a difficult matter to keep them down. A solution of tobacco and soft soap syringed over the plants in the evening is the best remedy.

LONICERA CAPRIFOLIUM.—This (sometimes called the perfoliate Woodbine) is one of our English Honeysuckles, and is closely allied to the common one, *L. Periclymenum*. It is, however, very readily distinguished from that species by the smooth, more glaucous leaves and by the terminal pairs on the flowering shoots being united all round the stem so as to look like a single leaf. The flowers are borne in the axils of these connate leaves. Each flower is $1\frac{1}{2}$ inches long, pale yellow, suffused with pink. The berries are oval and scarlet or orange-coloured. Some authorities have had doubts as to whether this is a real native of Britain, or whether it is simply naturalised, but if it is truly indigenous, Cambridge and Essex are the only counties in which it is so. It flowers two or three weeks in advance of the common Honeysuckle, and climbs as much as 15 feet or 20 feet high. It is a beautiful shrub, although its flowers, perhaps, are scarcely so fragrant as those of the common Honeysuckle.

L. ETRUSCA (GIGANTEA).—Under the name of *Lonicera gigantea* a valuable Honeysuckle has recently come prominently into notice. The plant so named is a form, perhaps finer and hardier, of the old *L. etrusca*. It is made synonymous with that species by Mr. Nicholson. Its strong vigorous shoots bear large oblong leaves, noteworthy because of their covering of dense hairs. The stems are reddish purple, and bear at and near the tips large showy, dense clusters of flowers. These flowers are at first yellowish white, but become a deeper and richer yellow as they get older; they have a sweet, pleasant perfume. To those who take an interest in the climbing Honeysuckles this vigorous and beautiful species may well be recommended. It is a native of Southern Europe.

L. IMPLEXA.—Although this species was introduced to Britain as long ago as 1772, and is quite hardy near London, it is not a well-known Honeysuckle even yet. It is a native of South Europe and the Balearic Islands. Unlike the preceding species (*L. etrusca*), its stems and leaves are quite devoid of woolly covering. The latter are 1 inch to $1\frac{1}{2}$ inches long, very glaucous beneath, without stalks, the lower part of the blades of each pair often overlapping. The stems are of a purplish hue, and bear the flowers at the end of the shoots and from the axils of the uppermost leaves. The flowers are purple outside and white within on first opening, afterwards changing to yellow. It is said to grow as much as 15 feet in height, but I have not seen it more than about 8 feet. It is a pretty plant, distinct because of its small leaves and closer growth.

L. PERICLYMENUM.—There is no plant more characteristic of our hedgerows and thickets, or adds more to their beauty and charm, than the common Honeysuckle or Woodbine. It flowers from June to August and often later, and during that time is one of the most beautiful as well as one of the most exquisitely fragrant of hardy shrubs. It is in the cool and dewy mornings and evenings that its fragrance is richest. This plant and *L. Caprifolium* are very similar, but its leaves are often downy and are not so glaucous, nor do the terminal ones become united (connate) as they do in *L. Caprifolium*. The flowers are borne in terminal clusters and are deep red outside, yellowish within. They are followed by crimson berries. It is a variable plant, and the following are the more noteworthy forms:—

L. P. VAR. BELGICA.—This has smooth, purplish stems, and is of sturdier habit than the type. It is often called the Dutch Honeysuckle.

L. P. VAR. QUERCIFOLIA (the Oak-leaved Honeysuckle) has leaves shaped like those of an Oak. It is a native of Britain.

L. P. VAR. SEROTINA.—This flowers later than the others, and its blossoms appear more simultaneously, thus producing a finer show.

L. JAPONICA.—This species may be taken as the type of a group of Honeysuckles that have come to us from China and Japan and known in gardens under such names as *Halleana*, *confusa*, *chinensis*, &c. Slight differences might be found, but they are all near enough to come under the one species. They are evergreen and grow very luxuriantly in good soil, coming into flower towards the end of June or the beginning of July and continuing for a couple of months. The blossoms are borne in pairs on short axillary branches, and are white at first, changing to yellow with age. They have a most charming fragrance, suggesting that of the common Honeysuckle with that of the Cowslip mingled. The broadly ovate leaves are pointed, bright green, and vary from 1 inch to 3 inches in length. In some of the forms there is a tendency towards the leaves becoming pinnatifid or sinuately lobed.



An arch of Honeysuckle.

The most distinct of the varieties is the one named

L. J. VAR. FLEXUOSA.—This has dark red stems and dark green leaves, the under surface of which, more particularly on the veins, is also red. The flowers are pale red outside, white within.

L. J. VAR. HALLEANA has flowers like those of the ordinary *japonica* in being white and afterwards changing to yellow, but it flowers during a longer period. All these varieties can be grown up single stakes, or on three stakes made to form a pyramid; they then form dense evergreen masses and are useful as bushes, for they need not be allowed to grow more than 5 feet or so high unless desired.

L. J. VAR. AUREO-RETICULATA is a variegated form of this Honeysuckle—known also as *L. brachypoda reticulata*—and is one of the handsomest golden variegated plants of its kind we have. The leaves are smaller than in *L. japonica*, being about 1 inch long, broadly ovate, with the mid-rib and veins picked out in bright golden

yellow. It loses most of its beauty in winter, but during the summer time is very bright. I find it very useful as a covering for old tree roots half buried in the ground.

THE AMERICAN SPECIES.

L. FLAVA.—The first mention of this species in a botanical work was in 1802, and shortly after this date it was sent to England by John Fraser, a well-known collector of American plants in the early years of the century. He discovered it on the summit of Paris Mountain, in South Carolina, and curiously enough it was never again collected wild till within the present decade, when it was again discovered on the same site, and subsequently in one or two more isolated localities. The few plants in cultivation are all descendants of Fraser's plants, and it is, either in a wild or cultivated state, one of the very rarest of North American shrubs. Its climbing stems are set with thin, slightly glaucous leaves, the upper pairs of which are, as in *L. Caprifolium*, connate.

The flowers appear in short, terminal clusters, and are bright yellow changing to orange, and the slender tubular part of the corolla is 1 inch to $1\frac{1}{2}$ inches long. This Honeysuckle has been much confounded with *L. Sullivanti*, but it is a more beautiful plant.

L. GLAUCA.—This is a very handsome species and one of the very hardiest of the American Honeysuckles. In a wild state it penetrates far to the north of Eastern America, and is said to reach even the shores of Hudson's Bay, extending thence right through Canada, New England, &c., as far to the south as the mountains of Carolina. Its stems rarely grow more than 6 feet to 7 feet high, and its leaves are a pale glaucous green. On the flowering shoots the leaves are without stalks and the uppermost ones are united as in our native *L. Caprifolium*. The flowers are of a greenish yellow tinged with purple, and are borne in close whorls at the ends of the shoots during June and July.

L. HIRUTA.—This is another of the climbing Honeysuckles of the Eastern United States. It is a tall, twining plant, differing from *flava*, *glaucia*, and *Sullivanti* in the absence of a glaucous bloom on the leaves; they are green and covered with

a soft down. The flowers are orange-yellow, and the corolla, the tube of which is half an inch long, is covered on the outside with a viscid pubescence, whilst the throat is hairy. It is a hardy plant, generally found wild on rocky banks in Canada and New England southwards to Michigan and Pennsylvania. Although it has hitherto been neglected in this country, it is one of the handsomest of the American Honeysuckles.

L. SEMPERVIRENS (Trumpet Honeysuckle).—Of all the Honeysuckles this has the brightest coloured flowers, and when seen at its best is, perhaps, the most beautiful. But, on the other hand, the flowers have no fragrance, and the plant itself can only be satisfactorily grown out of doors against a wall or in specially mild districts. Its leaves are naturally evergreen, obovate, bright green above, blue-white beneath, the lower ones stalked, but the upper pairs united round the stem. The flowers are borne at the tips in a series of superposed whorls, the long trumpet-

shaped corolla being of a brilliant scarlet, tinged with rose outside and with yellow in the throat. As a climber for the cool greenhouse this Honey-suckle proves very valuable, flowering continuously over a long season. A good plant is now in bloom in the greenhouse (No. 4) at Kew. The Trumpet Honeysuckle is a native of the South-East United States.

L. SULLIVANTI.—There has been a good deal of confusion between this species and *L. flava*, but it is not so distinctly a climber and its stems more bushy and dwarfer. Its leaves are very glaucous, thick in texture, 2 inches to 4 inches long, and ovate or oblong, the upper pairs joined together. The flowers are borne in whorls near the tips of the shoots and are pale yellow; the tubular part of the corolla is scarcely half an inch long, and there is a prominent chin towards the base, which affords a means of distinguishing this species from its close allies. The plant is conspicuous by its covering of white glaucous bloom, but on the whole it is less beautiful than *flava*. It is widely distributed in the Eastern United States, and was first brought into notice by the Mr. W. S. Sullivan after whom it is named. The fruit is handsome, the berries being bright red and borne in large clusters.

W. J. B.

THE EFFECT OF COLOUR.

It would be difficult to imagine a garden without colour, and it is when flowers fall, tints fade, and leaves rustle mournfully to the ground that the garden becomes a cheerless place. Even then, however, Nature provides for herself and us in the production of evergreens in varying shades, that keep up a ray of brightness the whole year round and check to some extent the air of depression that will have way. In the early summer, however, there is a different tale to tell. The garden is aglow with colour, so bright and profuse, and, where judiciously distributed, so harmoniously blended, that to match the effects of Dame Nature the brush of the most talented artist might be wielded in vain. Leafy June might also be called the month of bloom, for it is now that flowering trees and shrubs are full of beauty, and, no matter where you look, some bright mass of colour meets the eye.

From the sentimental, thoughts turn to the practical, and the present beauty of flowering trees and shrubs suggests many things to the thoughtful mind. In the first place there is the usefulness of such trees for garden adornment. To name them there is no necessity to go into minute details, but confine ourselves to the Lilacs, Hawthorns, Laburnums, Cytisus, Rhododendrons, Guelder Roses, Syringas, and other well-known flowers. These may be divided again into species and varieties to suit individual tastes, but, speaking generally, there is diversity enough to make any garden gay in the early summer months. One standing want generally noticed in what is known as the shrubbery portion of gardens is that of colour. Masses of sombre foliage become sadly monotonous to the eye that naturally demands variety, and if it is only a solitary touch of something bright it is a relief. The effect in many established gardens has been made or marred by the planter years ago, and the charms of many a landscape are obliterated by the want of something bright and cheerful to break the monotony of the surroundings.

Only recently when visiting a garden of large dimensions I noticed this. There were fine banks of Bay Laurels, specimens of Portugal Laurel, giant trees of Hemlock Spruce, Cedar of Lebanon, Wellingtonia, Arbor-vitæ, and other coniferæ. They were all fine specimens, qualified to raise the enthusiasm of any tree lover, but to the lover of colour there

was something wanting. There was no escape from the sameness of the varying shades of green, nothing to break the contrast of the pale green Laurels and the sombre Pines. I say nothing, but here I commit myself, for there was one solitary Laburnum rising from a groundwork of Laurels, and apparently unconscious of its conspicuousness. How it came there I know not, but from all appearances it came of its own free will, and from a tiny self-raised seedling grew into a tree. It was just prominent enough to give one an idea of how the landscape might have been improved by the presence of other flowering trees. There are always lessons to be learnt and trees and shrubs to be planted, and the moral is, not to pay too much attention to foliage, but to remember the flower. The picturesque in landscape is that in which light and shade with harmony in colour lend themselves in the formation of a happy blend, without which there is a dullness on the one hand or a vulgar multiplicity of colours on the other.

My mind's eye pictures a garden, perhaps well known to many readers of these columns, namely, that of Alton Towers, in Staffordshire. It is beautiful at all times, but more particularly so in early June when the many flowering trees and shrubs are at their best. The garden is situated in a natural valley, and the banks on either side are clothed with Rhododendrons interspersed with serpentine walks, patches of green turf, and specimen trees. Most of the Rhododendrons are the common *R. ponticum*, but here and there are brighter coloured hybrids recently planted. Down the centre is a cascade, where water tumbles from rock to rock, forms itself into a succession of pools, and finally loses itself in the valley below. Both sides of the waterfall are clothed with massive Rhododendrons, and over the cascade droop golden Laburnums and crimson Thorns. White and purple Lilacs are dotted here and there, and Guelder Roses and Magnolia conspicua show themselves to advantage against the dark green of the Hemlock Spruce. Altogether the effect is charming, and never more so than in the evening when viewed from a high position where the whole panorama lies before you.

The common Rhododendron grows freely in the light soil resting on sandstone, and groups of this shrub have developed themselves into dense thickets which clothe the sides of the valley with a profusion of flower, which is shown to the fullest advantage in the evening sunlight. Here and there are drooping masses of yellow Laburnum flowers and white and crimson Thorns, purple and white Lilacs, and many other flowering trees and shrubs, each of which helps in making contrasts that collectively form a happy blend. The varying shades of foliage are no less pleasing. Here is a fine specimen of Copper Beech, there a tree of the cut-leaved variety with pale green foliage against a background of dark Hemlock Spruce. The early growth of the Pines is almost silvery in the fading sunshine, and at different points recently planted trees of Japanese Maple make themselves conspicuous. Added to all this there is a stillness unbroken except for the song of feathered life and the music of rippling water. The scene is beautiful without being grand and gives to one an impression of rest and peace such as a garden, to be a garden in the true sense, ought to impart.

I give this imperfect sketch to illustrate the advantage gained by the presence of flowers in the shrubbery portion of gardens. There is a medium, of course, and one frequently sees instances, particularly in the surroundings of

suburban dwellings, where foliage would be a relief to tone down the gaudy glare of unharmonising colour. The ideal in landscape gardening is to dispense as much as possible with the artificial, and in copying Nature to do it thoroughly, for even in the wildness of a hedge-row or woodland it is not all leafage, but a happy mixture of colour supplied by simple flowers, in the absence of which there would be something wanting. G. H. H.

COTONEASTER PANNOSA (FRANCH.).

THIS new species of Cotoneaster was introduced by the Museum of Natural History at Paris about the beginning of 1888. Professor Max Cornu received some seeds of it from the Abbé Delavay, a missionary in Yunnan. The seeds were labelled "*Hu-Chan-meu fruit rouge*," the first name being that of the locality in which the seeds were gathered. Sown on May 28, 1888, they produced a sufficient number of specimens to permit of their being sent out in 1890. The plant appears in the Museum's catalogue of living plants offered for exchange to other botanic gardens in 1890 and 1892 under the name of *Cotoneaster* sp. (Yunnan). The plant flowered and bore fruit for the first time in the gardens of the Museum in 1897, both flowers and fruit showing themselves in profusion, which permitted of its being placed for distribution purposes in the "*Index Seminum*" for the end of 1897. It was presented by Professor Cornu as a new plant to the National Society of Horticulture of France in the month of October, 1897. Such in a few words is the history of its introduction.

C. pannosa is easily distinguished from other species. From a decorative point of view it is to be recommended for its persistent foliage, the underside of the leaf, of a beautiful silvery white, being in marked contrast with the deep and lustrous green of the upper surface side, and for its abundant flowers, but especially its brilliantly coloured fruit. It is, we think, a real acquisition and a fine addition to the series of shrubs which during the cheerless season of winter help to enliven our gardens with their fruit, which for brilliancy is equal to that of the richest blooms. We believe *C. pannosa* to be hardy in the Paris climate. The trials to which it has been submitted at the Museum were satisfactory on this point. It must be added, however, that specimens placed outdoors have not so far withstood the severe winters. The altitude of 9000 feet or so, given by the Abbé Delavay to be that at which the plant grows spontaneously, offers no certain criterion in this respect. Alpine plants, which in their natural habitats easily withstand considerable falls of temperature, protected as they are during the winter by a thick blanket of snow, in the plains require shelter, where, nevertheless, the rigours of the inclement seasons are much less severe, but where the snow is often wanting and alternations of frost and thaw are frequent. A regards soil, *C. pannosa* appears to be very easy to please. It is easily increased by seed and also by cuttings during the summer.—L. HENRY, in *Le Jardin*.

Manure cards on show exhibits.—My note on this subject, re the action of the Royal Horticultural Society, which appeared on page 540, brought me an interesting communication from a well-known Chrysanthemum grower, in which he mentioned that at one of the great shows of the N. C. S. he found on the second morning of the show that two large cards relating to a certain expensive and well-puffed manure had been placed on his exhibits, intimating that these flowers had been grown with the manure in question. The exhibitor removed one card, and on the other wrote prominently the word "not" over "grown," and placed it in a prominent position. The result might be readily anticipated, for no sooner was the exhibitor's back turned than the obnoxious card was removed. I marvel that

officials and committees of shows permit this sort of thing. The exhibitor in question states that he had never used this manure in his life.—A. D.

STOVE AND GREENHOUSE.

RICHARDIA ELLIOTTIANA ROSSI.

WITHIN the last decade we have had two or three very distinct forms of *Richardia* (*Calla*), remarkable for their rich golden-coloured spathes, introduced into cultivation, and from their distinct character and extremely showy blossoms they quickly became popular. The first of this class was *Richardia Elliottiana*, which attracted a deal of attention when it was first exhibited in bloom. It proved to be a good seed-producer, the result being that it was soon to be obtained at a moderate price. The variety Rossi, which has been brought prominently forward during the present year, was first flowered by Mr. Donald Ross, of Capetown, who stated that the plants came from a different locality to that in which *R. Elliottiana* and *R. Pentlandi* were discovered, and that they were in every respect an improvement upon them. A great number of dormant tubers of this variety were disposed of in the London sale rooms in the early part of the present year, but up to now none of mine have flowered. The appearance of the foliage suggests that it is a rather small-growing variety of *R. Elliottiana*, and produces offsets more freely than that does—indeed, that it is inclined to form quite a tuft, but these features may disappear with cultivation, the conditions under which it is grown being in every way so different. An illustration of it, which was to be seen when it was offered for sale, suggested that the flower-stems were shorter than those of the typical *R. Elliottiana*, whose flowers stand well above the foliage, while those of Rossi were scarcely higher than the leaves. Though anticipating with much interest the flowering of this particular variety, I am afraid that mine will not bloom during the present season.

Owing to the interest centred around these golden-flowered *Richardias*, many districts have been scoured in the search for them, and large numbers of imported tubers have made their appearance in this country. I have grown a considerable number of them, but never obtained in this way the true *R. Elliottiana* as flowered at first by Captain Elliott, after whom it was named. The prominent characteristics of this form are the rounded blade of the leaf and the manner in which the lower part of the stem is mottled with brown in the way of an *Alocasia*. The foliage of Rossi is of the same character, but at present smaller than that of the typical *R. Elliottiana*. The majority of the imported tubers consists of *R. Pentlandi*, or of some forms closely approaching it. In *R. Pentlandi* the leaves are more pointed and with less substance than in *R. Elliottiana*, while they are of a uniform deep green. The flowers, too, though of a rich golden yellow, are marked at the base in the interior with deep blackish purple, which is wanting, or almost so, in *R. Elliottiana*. This purplish tinge, however, varies to a certain extent in different individuals. In some importations there is a fair sprinkling of a form which is an exact counterpart of *R. Pentlandi*, except that the leaves are marked with translucent whitish spots, as in *R. Elliottiana*. This is occasionally met with as *R. Pentlandi maculata*. I recently had a plant of this brought under my notice in which the spathe was of a

sulphur tint instead of the deep golden hue common to this form. In the cultivation of these *Richardias* it should be borne in mind that they are natives of the region considerably to the north of the Cape, and consequently require a higher temperature than the common *R. africana* to grow them successfully. Thus, though one often hears of them spoken of as *Arum* Lilies with yellow flowers, the points of difference are most marked, for these golden forms require the temperature of an intermediate house (at least during the spring of the year) to grow them successfully, while they formed a flattened, roundish tuber and pass the winter in a totally dormant state. They need to be shaken entirely clear of the old soil and started afresh in new compost about February.

H. P.

Crinum Moorei variegatum.—Most of the *Crinums* are remarkable for their showy, if somewhat short-lived, blossoms, but in this form the foliage is decidedly handsome, being marked in a longitudinal manner with stripes of creamy



Richardia Elliottiana Rossi. Engraved for THE GARDEN from a photograph sent by M. Louis Van Houtte, Ghent, Belgium.

yellow and different shades of yellowish green, which vary a good deal in width. In nearly all the leaves the coloured portion preponderates over the normal green tint. The flowers of the variegated variety are as in the type, but the foliage loses its freshness before the blossoms expand. This variegated form of *Crinum Moorei* is at present not much known, but as this species produces offsets freely it will doubtless in time be more generally met with.—H. P.

Double Pelargonium Charbon Ardent.—We have not many double-flowered *Pelargoniums* of an orange-scarlet shade, and some of the limited number are rather apt to run up tall, which cannot, however, be said of this variety, for it is, as far as my experience extends, one of the very best of that tint. Though the flowers of *Charbon Ardent* are orange-scarlet in colour, they are of a peculiar and striking shade. It is of good dwarf habit and very free flowering, so that it is equally valuable as a pot plant or for the production of cut blooms. Its origin I cannot give, and the name rarely occurs in any catalogues. Perhaps it is a comparatively old kind rescued from oblivion, as happened in the case of the now popular *F. P. Raspail*, which was sent

out about ten years before its merits were recognised.—H. P.

Malmaison Carnations.—Each year sees many additions to the list of good *Malmaison* Carnations, and most of the newer ones do not appear as yet to have contracted the disease which is almost always to be seen in some degree in the older forms. *R. H. Measures* is a very fine variety with scarlet-cerise flowers shaded white, and practically a non-burster, with a good constitution. *Princess May* is another finely-formed flower of a deep rosy red colour. *Mme. Adeline Patti* bears a very strong likeness to the old blush variety, but the flowers are larger and fuller than we are accustomed to see in this old favourite. Two fine scarlets are *Lord Rosebery* and *Prime Minister*, in both of which the form is distinctly good.—J. C. T.

Streptocarpus Wendlandi.—This *Streptocarpus* when grown singly in pots is very un- gainly-looking and lop-sided, owing to the enormous development of the single leaf. Not liking its appearance in this form, I made up this year two huge specimens in deep pans, and the result is excellent. The plants have forty or fifty spikes now showing and the forwardest of these in full flower, while the specimens are as shapely as anyone could wish. The method adopted in making up the pans was to put an outer ring of plants with the leaves pointing outwards and filling up inside in the same way, so that the leaves overlapped in an outward direction all through. The soil used contains a fair quantity of decayed cow manure, as I find that all the *Streptocarpi* like this and continue to flower longer than they would without manure. I expect these plants to flower continuously from this time till the end of September, and to produce a great number of flowers during the season. The tall scapes of *S. Wendlandi* are very useful and lasting in a cut state. Its foliage, as in the case of that of the hybrid forms, must be protected from direct sunlight, as it is very susceptible to scalding.—J. C. T.

Fuchsia General Roberts.—The list of garden varieties of the *Fuchsia* is now almost endless, and among those in cultivation are many forms, some being particularly useful for one purpose and some for another. Of late, attention has been directed to the great value of the *Fuchsia* for clothing the roofs of greenhouses or similar uses, and for this the variety above mentioned, *General Roberts* is one of the very best. The style of growth is somewhat lax, and this, combined with the long peduncles and great profusion of large, showy blossoms, is greatly in its favour. The flowers of this variety are dark, and where a light-coloured comparison is desired, the old market variety *Mrs. Marshall* is good.

A bright red flower with the sepals and petals of almost the same colour is *Monarch*, whose individual blossoms are very large and freely borne, while the habit of the plant also fits it for clothing roofs. Of varieties with white corollas, a very old kind, *Alexandra*, is one of the best, but it is not easy to obtain. Failing this, *Flocon de Neige* is very good. To these four may, if required, be added *F. pendulæflora*, one of the original species, which has large clusters of bright showy blossoms, and *F. gracilis*.—H. P.

Zonal Pelargoniums with spotted flowers.—Some three years ago M. Lemoine, of Nancy, sent out among other *Pelargoniums* a variety (*Alliance*) which was quite a break away from any existing forms. It is very free-flowering and the blush-coloured flowers of good shape, but the great feature is that the three lower petals are thickly, and the two upper ones more sparingly, freckled with small, clearly-defined dots of purplish crimson. This dotting is far more profuse towards the centre of the flower than at the outside. A variety with flowers so marked attracted, of course, a good deal of attention, and another peculiarity is that it is more or less prolific, for when the flowers on a large truss fade, small

clusters are often pushed out therefrom, these in turn bearing a few blossoms. A break once obtained, other varieties followed in the same way, and one distributed last year (*Orestes*) has the dotting more pronounced than in the older kind. The ground colour of this is a kind of lilac-pink and the dots purple. Other varieties of this class distributed by continental raisers during the present year that have up to now flowered with me are *Daumier*, very thickly freckled with red on a lilac-pink ground; *Ciel Etoile*, pale whitish lilac, dotted with carmine; and *Pleiades*, rosy lilac, with carmine dots. There is at least one double-flowered form in the same way, viz. *Voûte Celeste*, in which both the clusters and individual flowers are large, the latter being of a bluish tint plentifully sprinkled with bright crimson. It is quite a break away from the ordinary double-flowered forms, and so are some of the attractive coloured varieties of the *Mme. Jules Chrétien* class, of which there are now several with double blossoms.—H. P.

SOCIETIES AND EXHIBITIONS.

NATIONAL VIOLA SOCIETY.

JULY 2.

THE display made by the supporters of this society at the Crystal Palace on the above date was disappointing. The competition was not so keen as the executive desired, but the heavy rainfall of the early morning no doubt to a large extent was responsible for this. It was a very happy arrangement to fix the date and place for the show, in conjunction with those of the National Rose Society's display. Scotland, the west of England and the south were represented at the exhibition, and it was interesting to compare the products of one with the other. The neat, though formal arrangement of the Tufted Pansies in sprays, with their own foliage, was effective, and this year the executive offered prizes for blooms arranged without wire in specimen glasses. This latter arrangement was appreciated by some, who find making a spray a long and tiresome occupation, while in a comparatively short time quite a large number of glasses may be filled with these interesting and pretty blossoms. Tufted Pansies made by far the largest display, and conspicuous among them were the increasingly popular rayless types of the flower. Miniature Tufted Pansies were represented by one board of blossoms only, and as these are so very pretty and interesting, it is a pity more were not forthcoming. The flowers kept very well during the day, notwithstanding the fact that the heat was very trying during the afternoon.

In the open classes the principal competition was for forty-eight sprays of Tufted Pansies, distinct, nine blooms in each spray. The gold medal for this display was well won by Mr. William Sydenham, Tamworth, Staffordshire, for a nice, bright and representative lot of blossoms. Among the best of his sprays were *Kitty Hay*, one of the best of the deep yellow rayless selfs; *William Tell*, a creamy white flower with a rich yellow eye and rayless; *Lemon Queen*, Masterpiece, a pure white self; *Queenie*, a medium-sized flower rather like *Border Witch*; *Commander*, a large rich purple self; *Councillor W. Waters*, a bright bluish purple self; *John Quarton*, a deep mauve and very effective; *Cottage Maid*, deep bluish purple and light lavender markings; *Lizzie Paul*, rich yellow rayed self; *Mary Scott*, one of the loveliest of blue-tinted white rayless selfs; *Ophelia*, a new colour of deep heliotrope blue, large and rayless; *Florizel*, a pretty blush-lilac rayless self; *Magnificent*, a good rayed blue self; *Stephen*, a large rich yellow rayed self; and *Pembroke*, the best of the rayless yellow selfs, besides many other choice sorts. Second prize was well merited by Messrs. Isaac House and Son, Bristol, for a wonderfully fresh display, and including a goodly number of both old and new sorts. Conspicuous among them were *Border Witch*, a

pretty shaded and edged blue on a white ground; *Craigie*, lower petals purplish crimson, upper petals shaded lavender; *Christiana*, cream self, with large yellow eye; *Duchess of Albany*, a bluish rose; *A. J. Rowberry*, rich rayless yellow self; *Magie*, a beautiful rich rosy crimson; and *Stobhill Gem*, lower petal rich deep violet, upper petals bluish white. Messrs. I. House and Son were also placed first for forty-eight sprays of fancy Pansies, distinct, six blooms in each spray, thereby securing the gold medal. These made a bold display, especially so when contrasted with the refined and delicate colouring as represented by the Tufted Pansies in other classes. The most notable varieties in this class were Col. M. R. G. Buchanan, Jas. Stewart, Mrs. W. Steele, Betsy Kelly, Jas. J. Irvine, D. Russell, D. G. McKay, Bernard Doulton, The Baron, Annie Ross (very fine), W. H. Clark, John Jackson, Beauty, and others. For twenty-four fancy Pansies, distinct, there was only one competitor, Mr. M. Campbell, High Blantyre, near Glasgow, being placed first with a very nice, even, and fresh lot of flowers. Most conspicuous were *Annie Ross* (a very fine sort), *W. Steele*, *Marmion* (excellent), *D. G. McKay*, *Sir J. Watson*, *Mrs. R. Stewart*, *W. H. Clark*, *J. Menzies*, and *Mrs. N. McKay*. Mr. Campbell also secured premier honours for twelve fancy Pansies, distinct, Col. M. R. G. Buchanan, Mrs. W. Steele, Bernard Doulton, and Mrs. R. Stewart being in fine form. Messrs. I. House and Son were second with smaller and less even blooms. The competition was keen in the class for twenty-four sprays of Tufted Pansies, Mr. M. Campbell being well to the fore with a fresh and clean lot of flowers. These were well and neatly set up, and were remarkably fresh after their long journey from the north. His best were *Magie*, *Liz. Barron* (large crimson-purple), *Dr. Stokes* (a crimson and rose-striped sort), *Duchess of York* (white rayed self), *Princess Ida* (pale rosy heliotrope), *Nellie* (cream-white), *Butterfly* (margined rose on white ground), *Lord Salisbury* (rather coarse, primrose, heavily rayed), *Lizzie Paul* (rayed yellow self), *A. J. Rowberry* and *Dorothy* (a lovely pale blue self rayless). Second prize was won by Messrs. J. Cheal and Son, Lowfield Nurseries, Crawley, Sussex, with a nice lot of sprays. *Duchess of Fife*, *William Niel* (pale rose), *Sweet Lavender* (lavender-blue self rayless), *Bridesmaid* (pale yellow self), *Florizel* and *Norah May* (blush self) were the most noticeable. For twelve sprays rayless Tufted Pansies, distinct, Mr. D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, was a good first, with this type of the flower well represented. The best sprays were *Devonshire Cream* (creamy white), *Nellie*, *White Empress* (large white self, yellow eye), *Florizel*, *Rosea Pallida* (pale blush rose), *Mary Scott*, a bright yellow seedling, *Christiana*, *Sir Robt. Peel* (citron-yellow, with an orange eye), and *Britannia* (a splendid imperial blue self). Second position was secured by Messrs. I. House and Son with much smaller, though pretty flowers. *Blush Queen*, *Border Witch* and *Cooper O'Fogo* were their best. For twelve saucers of blooms, distinct varieties, arranged in moss and without wires, the saucers not to exceed 6 inches in diameter, Mr. Campbell was again successful with a neat arrangement, and with varieties already enumerated. Messrs. I. House and Son followed with a smaller, but evenly arranged exhibit. A class for twenty-four varieties, nine blooms of each, arranged in specimen glasses with *Viola* foliage, neither blooms nor foliage wired, was also an interesting experiment, and made a fine contribution to the display. Messrs. I. House and Son were again to the fore with a neat and pleasing arrangement and with a nice assortment of colours, Mrs. C. Lowe, Ryhall, Stamford, being second, using rather more foliage than was necessary, but this was a nice exhibit all the same. For a special prize offered by Mr. B. G. Sinclair for six vases of Tufted Pansies, nine blooms in each, and arranged with any kind of foliage, Mr. D. B. Crane was a good first. His choice of light green fronds of *Maiden-hair Fern* and *Panicum variegatum*, and selection of colours

to associate pleasingly with this, assisted materially to place him in the coveted position. Messrs. I. House and Son were second with a nice display.

In the amateur classes the competition was not so good as usual, and was a constant source of comment. For twelve sprays Tufted Pansies, distinct, Mr. D. B. Crane was first with a fine lot of fresh flowers—*Mary Scott*, *Magie*, *Duchess of Teck*, a recent sport from *Duchess of Fife*, the edging being of a much deeper blue; *Pembroke*, Mrs. C. F. Gordon, a grand improvement on *Countess of Kintore*, a fine yellow seedling rayed; *Duchess of Fife*, *Endymion*, a pale yellow rayed self; *Isa Fergusson*, blue-black lower petals, upper petals deep lavender, and *White Empress*. For six sprays, distinct, Mr. Leonard Brown, The Cottage, Seven Arches, Brentwood, was first with a capital stand of flowers, *Stephen*, *Goldfinch*, *Magnificent*, Mrs. C. F. Gordon, and Mrs. Wm. Greenwood being beautifully represented. For the novices, six sprays, three blooms in each, Major-General Gillespie, Sydenham, showed a pretty lot of flowers for a beginner, and was deservedly placed first. For six sprays rayless Tufted Pansies, Mr. L. Brown was first, showing *Pembroke*, *A. J. Rowberry*, *William Tell*, *Lucy Franklin*, *Florizel*, and *Blanche* (a pure white self), second prize falling to Mr. D. B. Crane, who followed very closely. In the class for six sprays miniature sorts, Mr. Brown was again first, showing charming sprays of *Blue Bell*, *Old Gold*, *Mabel*, *Bessie*, *Canary Bird*, and *Violetta*, admirably illustrating the charming characteristics of these valuable sorts. Mr. B. G. Sinclair, Highgate Road, N.W., was placed first for six saucers of Tufted Pansies, and these were filled with nice, fresh and clean blooms of *Lady Isabel*, Mrs. C. F. Gordon, and *Norah May* among others. For nine varieties arranged in specimen glasses, Dr. Shackleton, Aberdeen House, West Hill, Sydenham, secured leading position with a capital lot of flowers, *New Duchess*, *Border Witch*, *Mary Scott*, Mrs. C. F. Gordon being seen to advantage in his collection.

Mr. W. Sydenham, Tamworth, staged a few examples of his artistic ware for arranging with Pansies, which appeared to interest many visitors, but his choice of colours in their arrangement might have been much better. Messrs. I. House and Son, Bristol, also staged a large collection of Sweet Peas, embracing many of the latest novelties, and in colours of the most pleasing description.

NATIONAL ROSE SOCIETY.

CRYSTAL PALACE, JULY 2.

NOR only from the point of view of the society alone, but also from the exhibitor's and grower's standpoint was this show a success. Throughout the entire exhibition the show may be said to be this, and as in most cases competition was keen, no honours could be said to have been easily won. Many of the exhibits were of the highest order, a remark which applies to nurserymen and amateurs alike. It was impossible to refrain from noting the leading blooms in the leading classes. Particularly prominent was that splendid variety Mrs. W. J. Grant, which occupied a conspicuous place in every winning stand; indeed, from no important winning stand was this fine Rose absent, while the lovely *Comtesse de Nadaillac* appeared almost as popular and well grown. The exhibition of 1898 was a credit to the National Society, and equally so to the essentially English flower which it represents and does so much far and wide to popularise.

NURSERYMEN.

In class 1, division A, for seventy-two blooms, distinct varieties, Mr. B. R. Cant, Colchester, secured the first prize with a superb lot of blooms. In this fine exhibit, where all were so uniformly good, it is difficult to specialise, though we cannot refrain from mentioning such handsome blooms as *Ulrich Brunner*, *Captain Hayward*, *Caroline Testout*, splendid in form, size,

and colour; Marie Finger, Alfred Colomb, Souv. d'un Ami, Maman Cochet, Prince Arthur, very rich and fine; General Jacqueminot, Mrs. Sharman Crawford, grand; Catherine Mermet, Duke of Edinburgh, and Mrs. W. J. Grant, a fine-formed and well-finished flower, the second prize in this class going to Messrs. F. Cant and Co., also of Colchester, whose blooms of La France, Beauty of Waltham, Duke of Edinburgh, The Bride, Mrs. Frank Cant, and Margaret Dickson elicited great admiration. Other charming flowers in this lot were Marie van Houtte, most lovely in colour; Mme. Montel, a fine pink, with large shell-like petals; Eugénie Verdier, Vicomtesse Folkestone, exquisite; Gustave Piganeau, and J. W. Pawle, a fine rich crimson. Messrs. Harkness and Son, Bedale, secured the third prize with handsome flowers of White Lady, Duke of Teck, Duke of Edinburgh, Mrs. Sharman Crawford, Jeannie Dickson, Vicomtesse Folkestone, a lovely toned flower; Horace Vernet, Niphetos, La France, all being in splendid form. The silver medal bloom in this class was a grand flower of Mrs. W. J. Grant, shown by Messrs. Paul and Son, Cheshunt. For forty distinct varieties, three blooms of each, Mr. Benjamin R. Cant, of Colchester, again took the premier place with a superb lot of flowers. His sets of La France, Mrs. John Laing, Duke of Edinburgh, Gustave Piganeau, Mme. Gabriel Luizet, General Jacqueminot, Margaret Dickson, Mrs. Sharman Crawford, Suzanne Marie Rodocanachi, and Mrs. W. J. Grant defy description. All these were of grand size, superbly finished, the whole being remarkable for size, uniformity and freshness. Messrs. Dickson and Sons, Newtownards, co. Down, were second with smaller, though nice blooms. In this lot, Bridesmaid, Mme. de Watteville, The Bride, Miss Bessie Brown, Mrs. Sharman Crawford, Duke of Edinburgh, and Mrs. W. J. Grant were among the gems of a good all-round lot, Messrs. F. Cant and Co., Colchester, securing the third prize, having good examples of Mrs. Sharman Crawford, Margaret Dickson, La France, Cleopatra, Captain Hayward, Lady Mary Fitzwilliam. In the class for forty-eight blooms distinct, Messrs. Prior and Son, Colchester, obtained the first prize, the most notable blooms being Magna Charta, very fine; Mrs. Sharman Crawford, Margaret Dickson, The Bride, Ulrich Brunner, Marchioness of Dufferin, Prince Arthur, Caroline Testout, superb blooms; Gustave Piganeau, Mrs. W. J. Grant, excellent; La France, Mrs. J. Laing, Chas. Darwin, Cleopatra, White Lady, A. K. Williams, and Lady Mary Fitzwilliam, all being of the finest description. The second prize went to Messrs. Townsend and Sons, Lower Broadheath, Worcester. Here Caroline Testout, Marie Verdier, Souvenir d'Elise Vardon, Ulrich Brunner, Alphonse Soupert, Marquise Litta, Magna Charta, Mrs. J. Laing, and Gustave Piganeau were, among others, of the finest possible form and colouring. Messrs. Burrell and Co., Cambridge, were a close third with La France, Ulrich Brunner, Kaiserin Augusta Victoria, very fine; Victor Hugo, Vicomtesse Folkestone, Mrs. W. J. Grant, Suzanne Rodocanachi, and others. For twenty-four distinct varieties, three blooms of each, Messrs. D. Prior and Son, Colchester, secured the premier position with a most imposing lot of blooms. In this set Souvenir de S. A. Prince was a grand flower, and equally fine was Kaiserin Augusta Victoria, while other superb and highly-finished blooms were Gustave Piganeau, Mrs. J. Laing, Lady Mary Fitzwilliam, a most handsome triplet; Mrs. Sharman Crawford, Mrs. W. J. Grant, and Souvenir d'un Ami. The second prize was secured by Mr. Geo. Prince, Oxford, with fine trebles of Mrs. W. J. Grant, Marchioness of Dufferin, Golden Gate, very distinct; Princess of Wales, Maréchal Niel, Alba rosea, Bridesmaid, La France, and Comtesse de Nadaillac, the last perhaps the most exquisite of all in this fine lot. Mr. Chas. Turner, Slough, was third with a fine lot of blooms, among which Helen Keller, fine rosy cerise, very full; Pride of Waltham, La France, Vicomtesse Folkestone, very fine; Mrs. Sharman Crawford, Mrs. J.

Laing, and Ulrich Brunner were the best. For twelve distinct varieties sent out by Messrs. Dickson, Newtownards, co. Down, the firm named secured the Dickson challenge cup, presented to the society by Mr. C. J. Grahame, vice-president, the best blooms being Mrs. Sharman Crawford, Killarney, a lovely flesh-tinted flower, Muriel Grahame, Countess of Caledon, Mrs. W. J. Grant, a prime flower, and Helen Keller, very brilliant. Messrs. Frank Cant and Co., Colchester, were second with splendid examples of Mrs. Sharman Crawford, Mrs. W. J. Grant, Margaret Dickson, and Countess of Caledon. In the class for 12 distinct varieties, to include Teas and Noisettes, Mr. J. Mattock, of Oxford, came first, with a beautiful lot of blooms, though unfortunately unnamed. In this instance boxes were disallowed, the trusses—seven of each kind—being arranged in vases, the blooms, as also the style of arranging, being specially meritorious. Two of the best here were Vicomtesse Folkestone and Mme. de Watteville. Messrs. Paul and Son, Old Nurseries, Cheshunt, secured the second prize with excellent bunches of Augustine Guinoiseau, Gloire Lyonnaise, Belle Siebrecht (syn., Mrs. Grant), Marie van Houtte, beautiful in colour; La France, Violette Bouyer, Mme. A. Chatenay, &c. For 24 blooms (Teas and Noisettes), Mr. George Prince, Oxford, was first, his Innocente Pirola, Rubens, Ernest Metz, a superb flower; Princess Beatrice, Hon. Edith Gifford, very handsome and beautifully formed; Cleopatra, Catherine Mermet, Souv. d'un Ami, being of sterling merit. This exhibit also contained a magnificent bloom of Comtesse de Nadaillac, which gained the silver medal as the best of its class. It was certainly a superb flower. Messrs. D. Prior and Son, Colchester, obtained the second prize with fine examples of The Bride, Souv. d'un Ami, Cleopatra, Souv. de S. A. Prince, Ernest Metz, a charming rose-carmine; Maman Cochet, Marie van Houtte, Mme. Hippolyte Jamain, and Caroline Kuster. For 12 blooms (Teas and Noisettes), Mr. J. Mattock, Oxford, took the leading place, The Bride, Rubens, Ernest Metz, Jules Finger, Amazone, a fine deep lemon yellow, charming in the bud state, and Souv. d'Elise Vardon being very fine; the second prize going to Messrs. Burrell and Co., Cambridge, who had good blooms of Luciola, Medea, Jean Ducher, Niphetos, Mme. Lambert, Maman Cochet, Catherine Mermet, &c. For eighteen distinct varieties (three of each variety) Mr. Geo. Prince, Oxford, was first, such triplets as Souv. de S. A. Prince, Luciola, Souv. d'Elise Vardon, Catherine Mermet, Innocente Pirola, Medea, Ernest Metz, Comtesse de Nadaillac (a grand flower), Mme. Cusin (very showy), Marie van Houtte (superbly coloured), Rubens, and Bridesmaid being among the best in this remarkably good, even lot of blooms. Messrs. Prior and Son, Colchester, secured the second place with good specimens of Amazone, Alba rosea, Jean Ducher, Ernest Metz, Maman Cochet, Mme. de Watteville, Catherine Mermet, The Bride. For thirty-six distinct varieties of garden or decorative Roses the competition was keen, and it is gratifying to see this useful section, as opposed to the merely stage or exhibition kinds, receiving such prominence at the hands of this the greatest society for furthering the culture of the Rose in this country. As may have been expected, the whole of these exhibits made an unusually attractive display and received marked attention from visitors. The Messrs. Paul and Son, Old Nurseries, Cheshunt, here gained the premier position with a most telling lot of bunches, well arranged. A few of the best were l'Idéal, Maman Cochet, Royal Scarlet, Mme. P. Ducher, Alister S. Gray, Gustave Regis, W. A. Richardson (very showy), Mme. Falcot, Mme. E. Resal, the lovely new white single Una, and others being all excellent, fresh looking, and showy in the extreme. The second prize went to Messrs. Geo. Cooling and Sons, Bath, for handsome bunches of Mme. Laurette Messimy, Isabella Sprunt, Marquis of Salisbury, a very telling crimson; Mme. Georges

Bruant, fine white; Princesse de Monaco. The first prize for eighteen varieties was gained by Mr. J. Mattock, Oxford, who had good bunches of Safrano, Mme. P. Ducher, Ma Capucine (lovely salmon and copper), Marquis of Salisbury, Hebe's Lip, Janet's Pride, Claire Jacquier, Homère, &c., Mr. Charles Turner being second with, among others, Bardou Job, Celina, Mme. Pernet-Ducher, Anna Marie de Montravel (pure white), Moschata alba, &c. For twelve blooms of Hybrid Teas, Mr. B. R. Cant, Colchester, was first with La France, Lady Mary Fitzwilliam, Marquise Litta, White Lady, La Fraicheur, &c., Messrs. Prior and Son being second—Caroline Testout, La France, White Lady, W. J. Bennett, Gloire de Lyonnaise, Vicomtesse Folkestone being the best. For twelve blooms of any yellow Rose, Messrs. Prior and Son, Colchester, came first with a lovely box of Marie van Houtte, Mr. Geo. Prince securing the second prize with a dozen grand blooms of that sterling yellow, Maréchal Niel, while Messrs. A. Dickson, Newtownards, Co. Down, took the third place with nice fresh blooms of Marie van Houtte. In the class for twelve blooms of any white Rose, Mr. Geo. Prince, Oxford, was a good first with magnificent examples of Souv. de S. A. Prince, superb in size and form, and in the very pink of condition, Mr. B. R. Cant taking the second place with large and massive blooms of Margaret Dickson. For twelve blooms of any light or dark crimson, Mr. Chas. Turner, Slough, took the first prize with handsome flowers of Ulrich Brunner, Messrs. Townsend coming second with Gustave Piganeau, and the Messrs. Harkness and Sons, Bedale, taking the third place with richly coloured blooms of Horace Vernet. For twelve blooms of any light or pink Rose, Mr. B. R. Cant came first with a superbly coloured dozen of Mrs. W. J. Grant, while for twelve blooms of any Tea or Noisette, Mr. Geo. Prince, Oxford, obtained first prize, his dozen blooms of Comtesse de Nadaillac being faultless. Messrs. Townsend and Sons, Worcester, were second with a charming lot of Rubens. For nine blooms of any new Rose, Mr. B. R. Cant was first with Mrs. W. J. Grant in splendid form, Messrs. A. Dickson and Co. taking second place with a handsome pink kind called Ulster. For twelve new Roses, distinct, Mr. B. R. Cant was again in the premier place, Souv. de Jeannie Cabaud, Tom Wood, Souv. de President Carnot, Empress Alexandra of Russia, Beauté Lyonnaise (a fine white), and Mrs. Rumsey being his best. Messrs. A. Dickson, Co. Down, had Mrs. Mawley, Bessie Brown, Mrs. W. J. Grant, and Brightness, the last an intense velvet crimson shaded flower. For twelve single Roses, distinct, Messrs. Geo. Cooling and Sons, Bath, were first, having Crimson Bedder, Paul's Single White, Macrantha, Rugosa alba, &c.

AMATEURS.

For thirty-six blooms, distinct, Mr. E. B. Lindsell, Bearton, Hitchin, secured premier honours with an even and highly creditable lot of blooms. Among the finest were Mrs. John Laing, a grand bloom, which was selected for the silver medal; Bridesmaid, Mme. Cusin (very good), Louis van Houtte, Ernest Metz, Gustave Piganeau, Duke of Wellington, Duchesse de Vallombrosa (charming in colour), Earl Dufferin, Duke of Edinburgh, &c. For twenty-four distinct, Mr. F. W. Flight, Twyford, secured first prize with a nice lot, his Dr. Andry, Chas. Gater, Caroline Testout, Ulrich Brunner, Comte Raimbaud, and Mrs. Sharman Crawford being excellent. For twelve distinct blooms, three of each, Mr. E. B. Lindsell, Hitchin, took the leading place, having handsome trebles of such as Ernest Metz, Souv. d'Elise Vardon, Capt. Haywood, Duke of Wellington, &c.; Mr. T. B. Hayward, who set up good trios of La France, Gustave Piganeau, Pierre Notting, Mme. G. Luizet, &c., being second. In the class for twelve blooms of any Rose except Teas or Noisettes, Mr. C. J. Grahame came first, having White Lady in grand form, the same variety securing the silver medal awarded for excellence. For eighteen blooms, distinct, Mr. C.

Jones, Hucclecote, Glos., was first with Tom Wood, Mrs. Grant, Chas. Darwin, Kaiserin Augusta Victoria, &c. For eight distinct varieties, Mr. R. E. West took the first prize, Mrs. S. Crawford, Capt. Hayward, and Margaret Dickson being the best. For nine blooms, Tea or Noisette excepted, Mr. E. M. Bethune, Hordham, was first with Kaiserin Augusta Victoria, Rev. H. A. Berners, Harkstead Rectory, being second with Margaret Dickson. For twelve blooms, distinct, Mr. G. Moules, Hitchin, was first, Prince Arthur, A. K. Williams, Rubens, and Maman Cochet being among his best. For nine blooms, distinct, Mr. J. C. Trueman came first, his best blooms being La France and Caroline Testout. For six distinct varieties, Mr. J. A. Hammond, Burgess Hill, was awarded first prize, having La France, Margaret Dickson, &c. For twelve distinct varieties, Mr. G. Moules obtained first prize, having Fisher Holmes, Horace Vernet, Rubens, Hon. E. Gifford, &c., the second prize going to Mr. L. Parry, Dorchester. For nine distinct Roses, including Teas and Noisettes, the Rev. J. H. Pemberton obtained the first place, showing in good form such as Comtesse de Nadaillac, Mrs. Grant, Caroline Testout, &c. In this case seven trusses of each variety were needed and boxes disallowed, the exhibits being set up in vases or similar receptacles. The next three classes were devoted to amateurs who had never taken a prize at any National Rose show, the first place being taken by Mr. J. Carter, Mill House, Halstead, who showed Niphotos, Mrs. Laing, and Caroline Testout, Mr. J. Hinton, Bathcaston, and Mr. G. Moor, Arundel, taking first places respectively in the other classes referred to. For eighteen blooms distinct (Tea and Noisette), Mr. A. Hill-Gray, Beaulieu, Bath, had a grand lot of flowers; not only in size and form, but for freshness and finish these were superb. Particularly good were Cleopatra, Bride, Bridesmaid, Maman Cochet, Hon. Edith Gifford, Comtesse de Nadaillac, Souv. d'Elise Vardon, &c. For twelve distinct, Tea and Noisette, Mr. A. Hill-Gray again took the leading place, showing well Ernest Metz, Maman Cochet, Souv. de S. A. Prince, Alba rosea, &c. In the class for eight varieties Mr. A. Hill-Gray, Bath, again displayed excellent form, showing, as in the preceding classes, really a grand lot of flowers. For twelve distinct blooms, Mr. Conway Jones, Hucclecote, Gloucester, was first, having Bride, Medea, Ernest Metz, &c., Mr. R. F. Hobbs coming second. In the amateurs' section for garden or decorative Roses Mr. A. Tate, Leatherhead, took the first place for twelve bunches, showing Perle d'Or, Safrano, Marquis of Salisbury, Hebe's Lip, Gustave Regis, very fine, and W. A. Richardson. For nine similar bunches Mr. A. F. Perkins took the leading place, having a fine lot of Mme. C. Guinoisseau, a rich and showy yellow, very free. Carmine Pillar and Mme. P. Ducher were also good. The second prize went to Miss Dorothy Nesfield, who had good Janet's Pride, Gustave Regis, Rugosa alba, &c. In the class for twelve vases of Penzance Sweet Briers, not less than six varieties, Mr. O. G. Orpen, Colchester, was first with such as Lord and Lady Penzance, Lucy Ashton, and Brenda, a rather showy pink; Mr. F. W. Campion, Reigate, taking second prize, his Flora McIvor and Meg Merrilies being very showy. For a vase of cut Roses, arranged with ferns and grasses, open to ladies, Mrs. O. G. Orpen took first prize, Mrs. Mawley, Rosebank, being second. These were pleasing light arrangements in each case, ferns, grasses, Polypodium aureum, and Asparagus being the chief things employed with Roses.

The gold medal of the society for the best new garden Rose was secured by Messrs. G. Cooling and Sons, Bath, for the new Rose Purity, a snow-white kind, very free and profuse according to the plants shown.

MISCELLANEOUS.

The mixed and other groups at the above meeting were by no means numerous, extensive collections of hardy plants coming from well-known sources and embracing all the most popular hardy flowers in season, Messrs. Barr and Sons, Messrs.

Jackman, of Woking, Messrs. Cheal, of Crawley, all bringing a goodly assortment of the best hardy things, among which many fine Larkspurs were quite a feature. In the group from Messrs. Wallace, Colchester, were many beautiful things, such as Lilies in abundance, the noble L. Wittel, with its golden central band on a snowy white ground, rendering it quite unique. Other Lilies included the lovely L. rubellum, L. monadelphum, L. Hansoni, L. umbellatum and L. Thunbergianum forms, many charming Ixias, a bold array of *Hemerocallis aurantiaca* major, very showy, *Calochortus* in plenty, *Ornithogalum arabicum*, &c. The Messrs. Veitch and Sons, Chelsea, had a splendid lot of pot Roses, well-grown plants, dwarf and nicely flowered; these were supported by Palms, Bamboos and the like and margined with *Eurya latifolia variegata*, while from Swanley Messrs. Cannell and Sons sent an imposing bank of Cannas in the leading sorts. Messrs. J. Laing and Sons, of Forest Hill, also sent a very beautiful group composed of double Begonias, interspersed with Palms, Caladiums and other fine-foliaged plants. They also showed baskets of cut flowers and an assortment of hardy flowers. Messrs. Dobbie and Co., Rothesay, exhibited a fine and varied lot of Tufted Pansies and Sweet Peas. The Messrs. Laxton Bros., Bedford, sent several baskets of their new Strawberries, including Leader, Mentmore and Royal Sovereign, the fruits large, but the colour seemed lacking.

A full prize list will be found in our advertisement columns.

National Carnation and Picotee Society.

—We are asked to state that in consequence of the lateness of the season the show is postponed until Wednesday, July 27. The tickets of admission to the Crystal Palace issued for the 20th will stand good for the postponed date, the 27th, and no others will be issued.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, July 12, in the Drill Hall, James Street, Westminster, 1–5 p.m. On this occasion special prizes will be offered for Roses, and at 3 o'clock a lecture on "Edible Peas" will be given by Mr. N. N. Sherwood.

NOTES OF THE WEEK.

Ostrowskia magnifica.—We learn that this handsome Bellflower is now blooming in the gardens at Hamslade, Bampton, N. Devon.

Pæonia albiflora striata is a curiously striped single form that will find some admirers, although it is somewhat smaller than the majority of kinds. The slightly cupped flowers are heavily striped with reddish carmine on a white ground.

Sweet Pea Princess May is of a very pretty shade of blue-mauve that renders it pleasing in any arrangement of these forms of *Lathyrus odoratus*. Another very charming thing in the same shade is Lady Nina Balfour, a very pleasing soft mauve tone.

Iris juncea and its variety *numidica* are among the most indispensable of bulbous lilies for early July. The rush-leaved forms come when the majority of the Spanish kinds are passing and are therefore welcome in their lovely and distinct shades of yellow.

Phlomis Russelliana.—This very distinct hardy perennial is too little known, or at least but only rarely seen in good condition. It is quite removed from a large number of hardy perennials, the leafage as well as the large whorls of yellow and white flowers being very striking in a group.

Rose Lady Mary Fitzwilliam.—This variety is a great success this year, some of the flowers being of large size, and the bulk generally of a meritorious character and fine in colour. Quite small bushes, too, have produced a large number of handsome flowers that will please those who require a good garden Rose.

Lupinus polyphyllus Somerset.—In the soft yellow of the blossoms that crowd the flower-spike of this plant there is little to distinguish it from the well-known Tree Lupine (*L. arboreus*), which species probably had something to do with the new-comer,

which will be an acquisition. The tone of yellow is so soft and pleasing that should the plant prove a good vigorous grower, in common with border Lupines generally, it will make a valuable addition to hardy plants.

Hemerocallis aurantiaca major.—The Day Lilies can boast no more handsome or beautiful kind than this, which surpasses all else in its rich and telling shade of colour. The plant, moreover, is of the same easy culture as are all the race, and therefore of great value in the garden. No good plant deserves to be grown very freely.

Rose Mrs. W. J. Grant.—It speaks volumes for the popularity of any flower, quite apart from the reliable character of any variety of Rose, to see it included in every winning stand where its inclusion is permissible. This was so with the above at the Crystal Palace show last Saturday, and in many instances the blooms simply faultless in size, colour, and form; some, indeed, were magnificent.

Begonia Florence Nightingale.—The possibilities of any group of so-called florists' flowers appear unknown, yet one may reasonably assume that for size, purity of colour, dwarfness of habit and remarkable freedom of flowering it would be difficult to surpass this handsome kind. The flowers are of snowy whiteness and remarkable for size, while the habit of growth is all that can be desired.

Lavatera arborea variegata.—Three splendid examples of this from Messrs. Cannell attracted a good deal of attention at the Drill Hall last week. The specimens in question were between 3 feet and 4 feet high and nearly 3 feet through. The plants were about three years old and retained their variegated character in a surprising manner. Root room was, however, limited, and this may have served to keep down excessive vigour.

Buddleia globosa.—There is a magnificent plant of this *Buddleia* in a garden close to the electric tram line from Kingstown to Dublin. It exceeds the height given by Mr. Bean as that usually attained by this species in this country, and must be at least 15 feet high. Mr. Burbidge told me that it had not been cut back by any of the winters. It was very fine last month and covered with its yellow balls.—S. ARNOTT.

Silene alpestris.—The pretty shining prostrate tufts of this plant are now covered with singularly beautiful pure white blossoms, which, though not large in themselves, are produced in such quantity as almost to hide the greater part of the tuft. For the rock garden it is a capital plant, though it would be impossible to surpass the free carpet of growth and numerous blossoms that result when the plant has attained a large size in good border soil.

Campanula G. F. Wilson.—This charming little hybrid Bellflower is now in full bloom on the rockwork. The excessive amount of rain which fell last winter did not seem to agree with it, and at first it made rather weakly growth. Now it has made considerable progress and is covered with its pretty semi-drooping deep blue flowers. If occasional dressings of bone-dust are given, its vigour is much increased.—S. ARNOTT, *Carsethorn, by Dumfries.*

Pink Albino.—So far as purity is concerned, together with form and substance of petal, this is, perhaps, one of the finest Pinks ever raised. So far, however, the small plants do not appear to possess the requisite vigour or freedom for a first-class border Pink. The plants referred to, it should be stated, are certainly not large, and it is possible another year may see some improvement in what is certainly a very beautiful and highly fragrant kind.

Phenocoma prolifera Barnesi.—This free-flowering New Holland shrub, that we are so accustomed to see twisted unnaturally around a wire frame, was shown at the Drill Hall a week ago in a far more natural style. The plants had apparently been grown to about 9 inches high and then stopped, and with but little after-pinching allowed their own way, finally forming large handsome heads, which were a mass of rich bright blossoms. In this way this plant is much more serviceable for grouping.

Sweet Brier Anne of Gerolstein.—At Straffan most of Lord Penzance's Hybrid Sweet

Briers are luxuriant and free-blooming, but the above kind, nearly 20 feet in height and with drooping branches set with rosy crimson flowers, is just now one of the best. For poles, arches, pergolas, dead shrubs or trees, &c., these Sweet Briers are a great gain, as scarcely anything could be more elegant in habit, so free-growing, so sweet and fresh in leafage, or having more variety in their blossoms. For planting in hedges near the house or for covering fences they would be charming. It does not appear to be generally known that cattle refrain from cropping the Sweet Briers, but it is a fact well worth remembering.—F. W. BURBIDGE.

The Mocassin Flower (*Cypripedium spectabile*) at Straffan.—There is now a bed of this consisting of twenty-four clumps, and in all bearing 451 flowers. Two of the largest plants bear thirty-five flowers each, and about 60 or 70 per cent. of the spikes are twin-flowered. There is some little variety in form and colour, but all the blossoms are very large and shapely, the sepals and petals pure white, and the swollen lips more or less rosy. This bed is eight or nine years old and is the result of fine dry clumps bought at the sale rooms. As thus seen, luxuriant in the open air, each stem 18 inches to 2 feet in height, no tropical Lady's Slipper could be more handsome. The results are so fine that I wish Mr. Bedford would kindly tell us his treatment as to soil and aspect, &c.—F. W. B.

Lilium Wittei.—There is no more beautiful Lily than this in the whole of the auratum group. The exceeding purity and great substance of its petals are marked features of this rare and handsome kind, several flowers of which from Messrs. Wallace, of Colchester, appeared at the Drill Hall last week. In the plant shown the habit is quite dwarf, not more than 2½ feet above the pot, and in this way its handsome flowers were seen to advantage. The pure blooms seemed but enhanced by the well-defined golden-yellow band down the centre of each segment. This is saying much, seeing the anthers were fully ripe, so that much care was needed to exhibit it in such perfect form. It is a superb Lily in every way, and worth every care.

Lilium Marhan.—This is the new hybrid Lily which secured a first-class certificate last week at the Royal Horticultural Society, and as a garden Lily should prove of considerable merit. It is also likely to prove of easy culture by reason of the parentage, viz., a Martagon form and *L. Hansonii*. The latter species is strongly in evidence in the hybrid, so much so that one might reasonably assume this to have been the pollen parent in this case. In the whorled character of the leaves and stems, and not less so in the general contour of the blooms, their size, &c., there is a marked character of *L. Hansonii*, the time of flowering also agreeing with that of this species. The colour, too, bears evidence of the cross, which is quite distinct from that of the species named. The new-comer should prove of service in the garden where room will always be found for new and valuable plants.

Primula Trailli.—Lovers of hardy plants generally have reason to thank Mr. G. F. Wilson for the infinite pains he has taken concerning the identity of the plant exhibited by him before the floral committee of the Royal Horticultural Society a little more than a year ago under the above name, and so far everything is very gratifying. At the same time, the very anxious desire of the majority of the floral committee to grant awards in such cases would appear to render the verification of any so-called new species in future a sort of necessity either by the Kew authorities or a sub-committee of hardy plant specialists acting in conjunction with the floral committee. It was, I know, very clear to a few hardy plant men that the plant in question was but a form of *P. involucrata*. An opinion to this effect I gave in the pages of THE GARDEN at the time, not being a member of the floral committee. The frankness of Mr. Wilson now places the matter in a clear light, and seeing the award made by the floral

committee was intended for *Primula Trailli*, this committee has but one course to pursue and unreservedly withdraw the award in question.—E. JENKINS, *Hampton Hill*.

Foxgloves and Larkspurs: A beautiful effect.—There is now a singularly pretty effect at Batsford Park of white and spotted Foxgloves, tall and well grown, covering a large space in a young and open plantation, with here and there the tall spikes of blue Delphiniums, these coming from stock to spare in the garden. The Foxgloves of the best spotted and white kinds at first were sown broadcast and afterwards renewed themselves. Where the white or creamy kinds come together and the slender blue spikes of the Larkspurs arise near them, the effect is beautiful and singular. This is only one of many charming combinations of this kind that might be made in what we might call the shrubby garden—that is, instead of crowding the undergrowth of precious trees and shrubs with Laurel, Privet, and such things, planting free-growing hardy plants like these. It is very easily done, and there is scarcely a garden where there are not lots of beautiful things among perennials which are overgrown and ready to be planted elsewhere. Such gardening well done is really more beautiful in colour than anything in the regulation flower garden almost, owing to the fine backgrounds and the aid of rising stems of shrub and tree.

Tropæolum polyphyllum.—That this free-flowering and handsome trailing species is grown in some quantity is shown by the numerous branches of it among the exhibits at the Drill Hall last week. It is in many respects a valuable species, and may be put to a variety of uses in the garden, by reason of its freedom and the way in which it adapts itself so readily to varied positions. It is, perhaps, the most persistent grower of its race, springing up through hard gravel walks several feet away from the spot where the original tubers were planted. In the rock garden in sloping positions it is especially attractive if allowed to ramble at will and not tied up to sticks as is sometimes seen. If it is desired to train it erect, the sprays or boughs should be placed quite early in position, but the plant is not so well suited for this, as there are no tendrils to cling or climb with. Rambling prostrate over rocks the effect of yellow blossom and glaucous leafage is quite marked, and a group thus placed is sure to attract attention. The plant being so easily managed and distinct in character may also be employed for window boxes or large vases in the garden. If necessary the tubers receive no injury by being lifted each year and stored away in a dry place.

Campanula mirabilis.—A small flowering plant of this much-talked-of species came before the floral committee of the Royal Horticultural Society last week and obtained a first-class certificate. Seeing the flowers of this Caucasian species come so near to those of some of the forms of *C. Medium*, it is strange so dignified an award was bestowed upon it. By a singular coincidence the Messrs. Veitch and Sons were at the same meeting the exhibitors of a splendidly-grown batch of these Canterbury Bells, such as are rarely seen in the open ground, much less as pot plants pure and simple. Yet these splendid examples, well known and tried as of rare horticultural value, received not the least recognition from the society, not even an "award" for the excellence of the strain, or even a cultural commendation, both of which the exhibit justly deserved. Thus grown the plants surpass all else of their kind ever staged at the Drill Hall. The plants of *Campanula Medium calycanthema* exhibited could hardly have been better done; they certainly could not have been more truly representative of the strain, which was an exceptionally good one, or have produced larger blossoms more greatly varied in colour. I am not now assuming that the example of *C. mirabilis* was a representative one, for the plant is said to form a pyramidal branching bush 2 feet high, bearing hundreds of the pale blue flowers. What I say is that the

plant shown insufficiently indicated its horticultural value, and that the higher award may have been withheld for a time. From a purely garden or decorative standpoint, were I asked my opinion, I should unhesitatingly favour the excellent strain of *C. Medium* above noted as calculated to serve a far wider sphere of usefulness than is the above novelty, so far as present experience can judge. I doubt not, however, that those who have large rosettes of *C. mirabilis* more than a foot across will expect to see a handsome pyramid of bloom that will not wholly disappoint at flowering time. The flowers are of a pretty pale blue tint and the plant evidently a profuse bloomer.—E. JENKINS, *Hampton Hill*.

Orchis maculata superba.—I noticed an article in THE GARDEN (p. 553) about *Orchis maculata superba*, and I give you my experience of it. The plant from which I got my present piece was planted upwards of thirty years ago, and it has never been disturbed, a small piece being taken off occasionally for a friend. A grand clump it is, too, so the theory of dividing will not hold in this case. The last garden I had charge of was in Ayrshire, very close to where it was discovered. I grew it there very well; in fact, I had longer spikes there than I have ever seen since. About twenty years ago I sent a spike to the editor of THE GARDEN, and the length of inflorescence was 13 inches. I would like to know if that has ever been surpassed. I was not content to let well alone. I wished to increase it, and when the plant was dying down it was taken up and the tubers separated, with the result that in two years there was not a single plant left. The plant here has been in the same place for nine years, is as healthy as ever, and it has twenty-eight spikes of bloom to-day. The only thing it requires is a little top-dressing in the autumn with fresh loam as the roots come to the surface. I have often seen it planted in old garden soil, but in a year or two it had disappeared. I take out the old soil to the depth of 2 feet and fill in with fresh loam, and that seems to suit it.—JOHN HARPER, *Kirkconnell Gardens, New Abbey*.

OBITUARY.

MR. WILLIAM MILLER.

WE regret to announce the death of Mr. William Miller, author of "A Dictionary of English Plant Names." He was a man of varied learning and who took much interest in native and other plants. From a very early age he was an accomplished scholar, and for several years had been head classical master at Stackpoole's famous school at Kingstown and afterwards at Ennis College, having taken first honours at Trinity College in classics and mathematics. He died at Ballycanew, Ireland, at the age of 67 years.

The weather in West Herts.—At the beginning of the week the weather was rather warm, but during the last few days the temperatures have been somewhat below the average. At 1 foot deep the ground is of about average warmth, but at 2 feet deep it still remains rather cold for the time of year. On two occasions rain fell, but taken together the fall only amounted to about a quarter of an inch. During June the temperature was very variable; indeed, during the course of it there occurred three distinct warm and three distinct cold periods. Taken as a whole, it was with two exceptions, 1886 and 1892, the coldest June during the past thirteen years. Rain fell on thirteen, or about the usual number of days for the month, but only to the depth of an inch, which is less than half the June average. The record of sunshine was small, only averaging 6½ hours a day, or an hour short of the mean for the month. The Junes of 1888, 1890, and 1894 were, however, more sunless.—E. M., *Berkhamsted*.

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ORCHIDS.

CATTELEYA SUPERBA.

THE long life or otherwise of this fine Cattleya is always doubtful, and among a batch of imported plants some are sure to continue in health longer than others. Now and then one comes across fine plants that have been grown on year after year, but it is not so often as one might wish. Scores of plants die annually, the life of a plant in many cases not exceeding half a dozen years under cultivation. Lately some cultivators have been very successful with it by giving less heat than was formerly advised, but this is only one of the methods that have been tried and found to succeed for a time only. There is no doubt that it has been overdone with heat in some instances. Not that the heat itself is harmful; indeed, if a plentiful supply of air is always moving over the foliage, I question if it could by any reasonable means be kept much too hot. But heat and moisture without due regard to the consolidating of the growth will not do. Large pseudo-bulbs are an advantage no doubt, but they must be exposed to the summer sun and abundant air currents to thoroughly ripen them. It is more necessary for this species than for any other Cattleya; in fact, few other species will stand so much sunlight. Another point is to keep the water supply going until the bulbs are really fully developed, for a plant starved in autumn has not the power to break strongly in spring, and is the first to shrivel from want of water during the winter's rest. I never like to see C. superba shrivel in the least while at rest, and while a distinct resting season is required, the water supply must be kept sufficiently good to prevent this. When growth commences, very little moisture at the root suffices; but when it is well away and root action is also free, a large supply is necessary, the plant having a lot to do in a short time. All these summer-flowering Cattleyas, in fact, that push up a young growth and flower upon it at once are alike in this respect. They

take a longer resting season as a rule than those that rest in sheath and make up for it by taking a larger supply of water during the short growing season. The flowers open as the bulb is thickening up, and are of a bright rosy purple shade on the sepals and petals, the lip marked with deep crimson-purple, yellow and white. When the flowers are fully open the plants may be placed in a light and rather cooler house, shading the flowers as long as they are open and afterwards giving almost full exposure to the sun. With regard to the treatment of the roots, it is imperative that something of a lasting character be provided, for they dislike disturbance, and the backward tendency spoken of in many a fine plant dates from the first repotting. I have had finer growth on C. superba by using pots or baskets than blocks, but a well-known cultivator has described his method of treatment, which has been satisfactory, and advises the use of Tree Fern stems as blocks. The natural roughness of this material would of course make it more suitable than a bare block of wood, and anyone having this aid to culture may use it with every prospect of success, provided the plants are otherwise well treated. For pots or baskets the compost should be kept very thin, and plenty of Sphagnum Moss rather than peat should be used. Quite three parts of Moss to one of peat will be suitable, and with it plenty of rough crocks. Thrips are very partial to C. superba, and unless carefully kept under, this pest soon spoils the appearance of the plants. Vaporising and occasional sponging will soon rid the plant of the insects and must not be neglected. C. superba is a widely distributed plant geographically, and it is singular that more variety is not found in the flowers. Discovered early in the present century, it was not cultivated in this country until 1838, when it was sent from British Guiana by Sir R. Schomburgk.

Masdevallia racemosa.—This is a fine species where well done, the racemes of flower occurring with freedom and containing many flowers

of a bright orange shade, suffused with a brighter colour. In habit it is looser than the usual run of Masdevallias, the leaves not so tufted, but occurring further apart on a semi-creeping rhizome. Wide receptacles and a compost with plenty of rough open material, so that air and water may enter and leave the compost freely, are necessary.

Dendrobium chrysanthum.—This is flowering at rather an unseasonable time, but the pretty sweet-scented golden-yellow blossoms are welcome. It blooms always upon the newly-made growths, and often while the foliage is still fresh, this giving it a fine appearance. The plants do best and look best in baskets, so that the long cylindrical stems take a natural semi-pendent direction. Rough peat and moss are the best compost, and the growth must be allowed its own way to a certain extent, the temperature being arranged to suit its habit of growing in winter.

Odontoglossum Roezli.—This is a very unreliable plant, some growers getting on with it tolerably well, but others—and these perhaps the majority—being far from successful. Its flowers, too, appear at all seasons, but when really good are sure to be admired. They are each upwards of 3 inches across, white, with a yellow centre to the lip and a purple-crimson blotch on each petal. O. Roezli requires more heat than any other species in the genus, with plenty of sunlight and abundance of water at the root. It is nearly always more or less in growth, and should be potted in peat fibre and moss over good drainage.

Læliopsis domingensis.—This is probably the only species in the genus that is at present under cultivation, and is a pretty plant, with somewhat the habit of the Mexican Lælias. The flowers occur upon branching spikes and are of a pretty soft rose in colour. L. domingensis, coming from the islands of Cuba and San Domingo, requires a warm, moist and very light house while growing, must be thoroughly ripened by exposure to sun and air and well rested. Under this treatment the plants seldom fail to flower, and the roots must either be confined to small baskets or placed on blocks.

Phalænopsis Manni.—This is a pretty Moth Orchid, with branching spikes containing about a dozen blossoms each not more than 2

inches across. The sepals and petals are variable in colour, some of the better forms being of quite a golden yellow, with brown markings, while in others the flowers are nearly white or very pale yellow. It is a species of moderate growth, requiring a fair-sized basket or pot and a thin compost or layer of Sphagnum Moss. The foliage must not be heavily shaded nor must it be wetted much with the syringe, especially in dull weather. The species is a native of Assam, and first flowered in England about 1871.

Catasetum Christyanum.—This singular species I have recently seen in good condition, the spikes of flower very stout, erect, carrying from a dozen to eighteen flowers. The colour may not be attractive enough to find favour with present-day growers, but, all the same, such plants ought always to be grown where anything like a representative collection is aimed at. The sepals are chocolate, the lip purple and green—a rather unusual combination of colour. These plants delight in ample warmth and light while growth is in progress, should be thoroughly ripened by exposure to sun and air in autumn, and have a distinct resting season.—H.

ODONTOGLOSSUM INSLEYI.

THIS is a capital plant for the amateur cultivator. Its culture does not present any especial difficulty, though care in all the details must be practised. The habit of the plant is very like that of *O. grande*. The flowers appear on erect spikes about seven or eight on each, and in colour they are bright yellow more or less blotched with reddish brown on the sepals and petals, the lip ornamented with many bright red spots usually about the margin. I know of no better place to grow this *Odontoglossum* than a cool or greenhouse fernery. The atmospheric conditions here are very like those obtaining in the native habitat, and, though possibly the plants could do with a little more moisture than is required for Ferns, a medium course may be made between the two which will do for both. In the Orchid houses proper the plants may be grown in the cool house and fairly shaded during summer. Although *O. Insleyi* cannot be said to be constant in its time of growing and flowering, it is not worth while trying to bring it in at any special time. Where a lot of plants is grown, some are sure to be earlier than others, but this is an advantage rather than otherwise, as it prolongs the season of flowering with no harm to the plants, as they like regularly cool and moist quarters all the year round. Large specimen plants of *O. Insleyi* are not so often seen as of *O. grande*, and usually the plants sent out from nurseries are so small that they have to be massed to make anything approaching a fine plant. Good masses are sometimes offered at the sale rooms, but when they get into the nurserymen's hands these are soon made less. I do not care for massed plants as a rule, and especially not of a species like this, that varies considerably in colour and markings. Far better keep them single, and grow them on as quickly as possible; they are very free, and soon make nice neat little specimens. They should have pots of medium size, according to that of the plant, and a rough compost suits the somewhat fleshy roots. Pots, say, 8 inches in width may be filled to within 2 inches of the rim with crocks. Allow a fair margin around the plants, or repotting will soon be necessary again, but avoid setting the plants too high. They must be elevated a little, but not so stuck up that the watering is difficult. The plants may be potted just at the time growth is starting, and here it may be noted that the small snails so frequently seen about cool Orchids are very destructive to this plant at this time. They manage to get through the tough outer scales and eat out the embryo flower-spike and part of the young growth, quite ruining the plant in fact.

Moisture at the roots must be regular rather than changing much at the resting and grow-

ing seasons. The plants must not be dried, or they will resent it by shrivelling and pushing weak growths. Besides the typical plant named above, there are several fine varieties, including *leopardinum*, *panthericum*, *splendens*, and others. These differ principally in the colour of the flowers, the last-named being an especially fine one, much larger than the type. *O. Insleyi* is a native of Mexico, and was first discovered by Ross about sixty years ago, and sent by him to Mr. Barker, of Birmingham. For a long time it was rare, so many plants having died, but some years later it was again introduced in quantity, and has frequently been imported since.

Odontoglossum cirrhosum roseum.—Under this name I have received flowers of one of the rosy-tinted forms of *O. cirrhosum*, a pretty section that makes a distinct contrast to the ordinary forms, and is beautiful in itself. In the flowers to hand the rose tint is confined principally to the centre of the sepals and margin of the petals, the lip also having a slight suffusion, though this is of a lighter tint. If such fine tints of rose turn up as are occasionally seen in crispum they would form a very fine class, but though I have seen many with a tinge of rose, none as yet comes up to this standard.—H.

Lælia Wyattiana.—The blossoms of this species, or natural hybrid, although not so broad in the segments or showy as those of many other kinds, are very pretty and distinct and well worth a place. The flowers are each about 4½ inches across, the sepals and petals nearly pure white, and the lip has a deep purple front and yellow side lobes—a pretty combination, not unlike that occurring in *Lælia crispata*. Its culture is not difficult, the plant thriving well in company with *L. elegans*, *L. purpurata*, and others from South Brazil, whence it has been imported occasionally. It is dedicated to the late Mr. G. N. Wyatt, of Cheltenham, with whom it first flowered.

Phalænopsis Luddemanniana.—I noted a fine spike of this species this week bearing six flowers, each about 2½ inches across. The sepals and petals are rather heavily blotched with chestnut-brown on a pale yellow ground, and the lip is bright amethyst-purple and white. Although not particularly difficult to grow when good specimens are procured, this species does not grow so freely as *P. amabilis* or *P. Schilleriana*, and when in indifferent health it is a difficult subject to thoroughly restore. Small baskets are preferable to large ones and the roots are better with only a small amount of compost about them, this consisting of clean Sphagnum Moss and charcoal or crocks only. There are many varieties of this species, which was introduced from the Philippine Islands by Messrs. Hugh Low and Co. in 1864.—H.

Angræcum citratum.—Although a dwarf species, this is a very pretty plant when well grown, the long, semi-pendent racemes of whitish flowers having a fine appearance against the dark green of the foliage. A plant with three racemes has been very pretty with me during the last month, and it deserves a place in any collection. One of the discoveries of Du Petit Thouars during his voyage late in the last century, *A. citratum* was not introduced to this country for many years afterwards, and was then for a long time rare, but subsequent importations have made it plentiful enough. Its native habitat is Madagascar, where it grows in swampy, moist positions on low undergrowth. A hot, moist house is best for it, and although the growth is freer in a dense shade and the plants take on a deep green tint, the flowers are not so freely produced as on plants growing in a good light. In nurseries the plants of this and similar kinds are often packed close together on stages a long way from the glass, but the position most of them, including *A. citratum*, enjoy is one not far from the roof where plenty of light and air is found. The baskets should have a few large pieces of crocks and charcoal in

the bottom, these being lightly surfaced with clean Sphagnum Moss kept growing.—H.

ONCIDIUM CARTHAGINENSE.

It is surprising that some of these bulbous *Oncidiums* are not a good deal more grown, this species, for instance, being as handsome as any in the genus, with finely spotted foliage and very pretty flowers. As a rule, if one comes across a plant of it in an out-of-the-way place it is a poor, half-starved thing that gives but little idea of what the plant is capable of. I have had it with leaves 2 feet and upwards in length, broad and handsomely marked, and the flower-spikes several yards in length, that, looped up to the roof or twining about other plants, have an exceptionally pretty effect, notwithstanding the small size of the individual blossoms. The latter occur on short side racemes all along the principal spikes, and have pretty rosy white sepals and petals, much crisped and undulating, the lip similar in colour, but of plainer outline. The culture of *O. carthaginense* for a few seasons after importing is extremely simple, the plants growing and rooting with great vigour, but unless care is taken every year to thoroughly consolidate the leafy system and to maintain the plants in a hard, sound condition, they will after this lose vigour and eventually make but little progress. As soon as the new growth of a season is seen to be smaller than that of the year preceding it, something is obviously wrong with the plants, and as likely as not it is the want of consolidation referred to. I have before stated in *THE GARDEN* that these *Oncidiums* from the West Indies and Central America are often kept in too moist an atmosphere. Not but that they like moisture both at the roots and about the leaves, but it ought not to be continual, and a slight drying occasionally with the sun shining fully on their leaves helps to maintain the balance between a soft growth on the one hand and a semi-starved condition on the other. It is so with the species under notice, and much better results will follow this kind of treatment than a course of continuous atmospheric moisture and heavy shade, notwithstanding the healthy appearance of the plants under the latter régime. The treatment of the roots is simple enough, and no difficulty will be found in inducing them to take a firm hold of anything provided for their reception. They do not care for a heavy or thick compost, but always seem most at home and longer-lived when they are rambling about on the outside of a pot or basket in such a position that they are often dry. A thin layer of Sphagnum Moss and peat over abundant drainage and plenty of rough material then may be chosen. In this the roots will frequently run dry and need moisture, a condition conducive to the long life of epiphytall Orchid roots. The temperature of the Cattleya house will suit it, or it may be grown with the Mexican *Lælia*s. It is one of the oldest of known Orchids, having been discovered in Central America far back in the last century, while it flowered in England in 1804.

Oncidium longipes.—The flowers of this *Oncidium*, produced on small spikes containing about three or four, are very pretty and long-lasting. It is very free flowering, so much so, that almost every young shoot has its flower-spike, and as these come successively, the plants make a show for a long time. The sepals and petals are yellow and brown, the lip brighter yellow with a prominent crest. Not being a very vigorous plant, the receptacles for its growth should not be too large, a flat pan or basket or a pot nearly filled with drainage suiting it well. The plant spreads considerably, so that the pot may be wide in comparison with the plant, the ordinary description of compost suiting it well. At no time is a very heavy water supply necessary, but during summer when the plants are carrying their flowers and developing their growth at the same time they need fairly frequent attention. In winter the roots should not be

dried, the treatment in this way being similar to that recently given for *O. concolor*. The temperature may be rather above that of the *Odontoglossum* house, a cool, moist medium in summer and winter and a fair amount of shade being required. *O. longipes* is a native of Rio de Janeiro, whence it was introduced about 1850, and it has frequently been imported from various other parts of South America.

Epidendrum nemorale.—This is one of the finest of Epidendrums and a good garden Orchid, showy, yet delicate, and pretty and very free. The pseudo-bulbs are rather short, but bear long leaves, the flowers appearing at the upper part of the erect spikes. The colour is a pretty shade of mauve with deeper lines upon the lip, but it varies somewhat in different plants. Its habit suits it best for pot culture, the pots being fairly large and well drained, and filled with equal parts of peat fibre and Sphagnum Moss. The plant requires care both in potting and subsequent watering, the roots being easily injured by undue disturbance or a surfeit of moisture. It comes from Mexico, where it is distributed over a large tract of country; and whether from some localities the plants are stronger in constitution or they are collected at a more suitable time I am unable to say, but certainly some do much better than others, though apparently quite as vigorous at first. I have not found it a fastidious plant as to temperature, having obtained good results in a fairly cool house and also when grown with the Cattleyas. I should choose the latter for preference, as the growth is more free. During the season of growth it is a very thirsty subject, and being evergreen must not be dried in winter.—H.

THE MARKET GARDEN.

PEACHES AND NECTARINES FOR MARKET.

If the average gardener were consulted as to the possibility of growing Peaches and Nectarines for the markets profitably, the chances are the reply would be decidedly in the negative. A similar reply would also be returned by some market growers of my acquaintance. At the present time I have a span-roofed house 145 feet long fairly well stocked with trees. Peaches would pay fairly well if the price averaged 6s. per dozen fruit, but this I hold to be a low average, 8s., clear of all charges, being nearer the mark. Commencing late in May with 15s. per dozen for the best of the fruit, going up to 18s., this price holding good during the Ascot week, also for a few days preceding and succeeding that week, they gradually drop to 9s. per dozen, at which price all forced Peaches and Nectarines ought to be cleared out. It is only fair to state that these prices are only realised by highly-coloured or moderately well-coloured fruit, the seconds fetching one-third less than the best samples, but of these there ought not to be many to pack, unless overcropping be the order of the day. The cost of production I have not worked out, and can only say that the house devoted to Peaches and Nectarines is less trouble than when planted with Tomatoes, and the amount of fire-heat expended would be about the same as required for Tomatoes—less certainly rather than more. It is private gardeners or men with some previous experience with Peach and Nectarine trees that ought to commence their culture on a moderately large scale to produce superior fruit for the markets. Others who have started without knowing what they were about contrive to get into a rare muddle with their trees, and I could point to a large number of trees run wild and pushing through the glass in all directions. In another case, a private garden rented by a market grower, the trees are being cropped for

"all they are worth," and when that grower has done with them it is not much they will be worth. Such examples serve to bring discredit upon what is really an important industry, those responsible for or suffering from the effects of such blunders naturally having but a poor opinion of that particular branch of horticulture.

BEST MARKET VARIETIES.

Not a little depends upon the choice of varieties. If the beginner "places himself in the hands of a nurseryman," leaving the selection to him, and by so doing getting a few shillings reduction in price, it is just possible he will find this false economy. Some of the varieties received may be admirably adapted for forcing and marketing, and the rest not. A favourite Peach with many is Royal George, but this variety is not one to plant wholesale. It is in some respects too good for the purpose, and, like many more high-class things, possesses a weakly constitution. The trees are liable to become infested by mildew and to fail prematurely. Another fine Peach—Grosse Mignonne—is also, according to my views, unsuitable for market growing, and objections may also be urged against the colourless but luscious Noblesse. Nor do I recommend Alexandra Noblesse, yet all four varieties, and to which I add Stirling Castle, a fine but somewhat soft Peach, are deservedly among the most popular grown in private gardens. Early Beatrice, Early Louise, Early Alfred, and Rivers' Early York are all extra early, and, as a rule, good in quality, but I would not plant any of them. Well-grown fruit of Alexander and Waterloo (they are very much alike) fetch the highest prices, and but for one bad failing of these extra early varieties would be extensively grown. There is no certainty about their holding their buds, and this season I had to leave every fruit that set, or otherwise the crop would have been light. Amsden June is equally early, of the same free habit of growth, and sheds but few of its flower-buds prematurely. On young trees or those growing strongly the fruit is a little under-sized, but as the trees age the fruit improves in size, and this season I had many that were large, handsome, and highly coloured. Trees of Amsden June are fast occupying space previously covered by Waterloo and Early Alexander. To succeed this I grow Hale's Early, which I find one of the best if not the most profitable variety in the house. The fruits are large, of fine colour, and the quality is good. I have never yet failed with it. Early Rivers is a fine early Peach, which I would grow but for its bad habit of stone-splitting. My small tree cannot be cured of this, and is being gradually crowded out. Of Crimson Galande I have nothing but good words to write. It is a grand second early Peach. The trees with me never fail to set heavy crops, the fruits are large, and colour beautifully. Bellegarde is a week or so later than the last-named, and this again is a grand market Peach. Violet Hative is equally easy to grow, the fruit colouring beautifully and selling well. It ripens about the same time as Bellegarde. If yet another variety is wanted for forcing, Dymond should be grown, as it is reliable and good in every respect. As it is not advisable to have too many fruits ripening at one time, especially if they are sent direct to fruiterers, a few trees each of all the varieties recommended may be planted in one long house, keeping the later sorts, if any are grown, by themselves in another house or compartment. There is, however, nothing to prevent late varieties sharing a house with earlier ones, and for a local trade this arrangement may be

advantageously adopted, but as a rule the early and second early Peaches pay best. Barrington would form a good succession to Violet Hative, and the fruits of this variety are large, colouring beautifully, keeping and travelling well. All things considered, no late variety equals Sea Eagle for heavy cropping, size, colour, and quality of the fruit. This variety also keeps and travels exceptionally well. I have never sent any of it to Covent Garden, but am under the impression a house wholly devoted to Sea Eagle would pay well. Those who are on the look-out for something fresh or different from what most other market growers favour should try Salwey, as I believe it would pay anyone to grow it extensively, timing the crop to ripen in October. Peaches are becoming scarce at that date, and although not much can be said in favour of the quality of Salwey, the fruits are large, colour beautifully, and keep well. According to my experience, the trees of no other variety will long stand over-cropping so well as do those of the despised Salwey.

"No money in Nectarines" was the positive assertion of a friend of mine who felt competent to express an opinion on the subject, and much to my regret I was weak enough to accept this dictum. I have since discovered that Nectarines are in greater demand than Peaches and are really the more popular, especially among ladies. Extra fine highly-coloured samples fetch high prices early in the season and sell at profitable rates at all other times. At one time Lord Napier was the best early Nectarine, but this is being fast superseded by Early Rivers, and Cardinal promises to be even more profitable than the last-named. With me a few fruits of Early Rivers ripened at about the same time as Hale's Early Peach, and I have no doubt it will be at least a week earlier in ripening next season. The fault of this handsome Nectarine, if a fault it may be termed, is over-luxuriance, but market growers have a remedy for this, viz., heavy cropping. Lord Napier, a fine Nectarine, forms a good succession to Early Rivers, and to follow this we have Stanwick Elruge, a sure-bearing, highly-coloured variety. Improved Downton is equally reliable, the fruit being moderately large, maybe highly coloured, and the quality is good. Pine-apple is one of the richest-flavoured Nectarines available and a good market sort. The heavy-cropping, but less attractive Victoria is also useful to supply late fruit if required.

PREPARATION OF BORDERS.

Market growers cannot afford to form elaborate borders for Peaches and Nectarines any more than they can for Vines. Nor are they necessary. Land that will grow garden crops generally without a great amount of labour expended on its preparation is good enough for Peach trees. My soil happens to be a sandy clayey loam, and answers admirably without much preparation. Span-roofed houses running from north to south and from 14 feet to 20 feet wide, with a roof moderately steep in pitch, are suitable, and much cheaper than three-quarter-span or lean-to structures. Houses with brick walls and glazed sides are most commonly erected, but I am well content with stout wooden pillars and boarded sides 2 feet to 3 feet above the ground level. Having seen the ill effects of exposing the stems to strong sun, I am glad to shade these with the boards, and, knowing that the trees are all the better for being able to root into outside borders, the wooden sides afford the cheapest and readiest means for connecting outside and inside borders. My Peach house is the outside one of a group of three divisions originally intended for Tomatoes, and the trees which are

covering the inside half of the Peach house send their roots through into the next compartment occupied by Tomatoes, and those on the outside portion of roof share a sloping border with early Strawberries. The association seems to agree with them. Ordinary deep land drains pass under the house at places, and this is all the drainage thought necessary. The preparation consisted merely in bastard trenching and mixing a little manure in the bottom spit, and the surface ground being also decidedly poor this was also manured as for vegetable crops, a sprinkling of half-inch bones being added. For two successive seasons Tomatoes in pots were fruited in this house, and as these were allowed to root out into the border, there was little likelihood of the soil proving too rich for the Peach trees. A heavier soil than I have to deal with would be benefited by a free addition of lime rubbish and "burn-bake," or charred garden refuse, soil, and ashes from a slow fire, and this material with a little fresh loam, short manure, and bone-meal is annually supplied to my border as a top-dressing prior to commencing forcing, such top-dressings serving to keep the roots active near the surface.

W. IGGULDEN.

CHRYSANTHEMUMS.

NOTES ON CHRYSANTHEMUMS.

THE present season, as far as this neighbourhood is concerned, has not been satisfactory for the growth of Chrysanthemums, the continued rains and dull days having brought about a sappy and hollow growth in the first stages. It is such gross growers as Mme. Carnot that are worst in such a season, and when cutting down the plants the stems were so hollow, that an ordinary slate pencil might very easily have been passed down them. The habit of this fine variety is not all that could be desired, for if at all well fed the extra strength often shows itself in a kind of multiplication of buds, and what promises to be a fine bloom splits itself up into scores of small ones. The same thing is occasionally seen in badly ripened plants of the incurved section, and an old variety, Cherub, was singularly subject to it. Unless much brighter and warmer weather sets in I shall look for poor flowers of the incurved section. Good blooms of these old favourites cannot be had without abundance of sunlight and heat during the growing season, and many of the older growers owed much of their success to suitable positions. West of England growers will be familiar with the fine flowers shown by an old amateur grower, Mr. J. Bayliss, whose plants, grown in a Pennant stone quarry on the side of a hill, were never large, but, owing to the radiation of sun-heat from the rocky sides, were always exceptionally well ripened. The Japanese section will stand more feeding; they are, in fact, much easier to grow, and consequently more popular, while for decoration their graceful flowers and great variety of colouring give them an unrivalled position among autumn and winter-flowering plants.

Among them now there is plenty of work required, for they are growing vigorously and need almost daily attention in removing lateral shoots, tying, and other cultural details. Insects, too, are abundant, earwigs being quite as active as usual notwithstanding the wet and cold nights. Green fly has given more trouble than usual, and one needs to be always on the look out. I find a little tobacco powder at once the simplest and most effective means of getting rid of this pest in the tender tops of the

plants, and use an insecticide in water for the lower leaves should any make their appearance there. On the hardened and ripened leaves below, these pests do little harm, but their presence is a guarantee of plenty of young broods attacking the tops.

After the plants are well established in their flowering pots I always syringe them daily with weak clarified soot water, and the value of this is not sufficiently realised by amateur growers. There is a certain and gradual improvement in the appearance of the plants when it is first used, the foliage taking on a deeper tint of green, while it is helpful in keeping down mildew and insects. Soot water at the roots, too, is one of the very best fertilisers early in the season. Used frequently in a weak state it promotes root action rather than hinders it, as so many manures do, and when soot at least a year old can be had, it may be lightly dusted over the foliage with advantage. Watering at the roots is an important item now, and one too frequently gone about in a careless style. Many of the finest varieties are easily injured by over-watering, Edwin Molyneux, Mrs. W. H. Lees, and Miss Dorothy Shea as instances. Growers with a light soil at command are in a relatively better position with these and other kinds than those who have a more adhesive soil to deal with; but in any case it is better to pass a doubtful plant for an hour or two and look them over often than to give water before it is really necessary. H.

Bury St. Edmunds.

DESTROYERS.

THE FRUIT TREE BEETLE.

(SCOLYTUS RUGULOSUS.)

SEVERAL complaints, according to a leaflet issued by the Board of Agriculture, have been received of injuries to Apple trees, which proved to be caused by the boring beetles known as Scolytus rugulosus. The tips of the smaller branches were almost honeycombed by the larvæ, many of which were found alive and active in the channels made by the insects. It seemed that the larvæ were more fond of the soft bark, as they were more frequently found there, than of the harder wood of the branches. Many of them, however, were in bark that was decaying or nearly dead, and it was not common to find them in healthy bark. There seems to be no doubt that this insect has a decided preference for sickly trees and parts of branches where there is the least flow of sap. The larvæ have been frequently found in the tips of shoots of trees injured by frost or other weather influences, as well as near scars from canker and knife cuts and knots. It is not clear that the beetle attacks perfectly healthy and vigorous trees, nor, on the other hand, that it does not attack such, and it is certain that the onslaught of these beetles upon a young tree that might be temporarily sickly from some other cause would prevent its recovery and hasten its destruction. The fruit tree beetle not only attacks Apple trees, but Pear, Plum, Cherry, and Peach trees are also frequently infested by it. The dying away of the ends of the twigs and smaller branches and the shrivelling up of the leaves are signs of infestation. On close inspection, many round holes, of which the diameter is hardly equal to that of an ordinary pin's head, will be seen in the bark of badly infested trees. These holes will be found to lead to the surface of the woody parts, upon which will be found channels or grooves, made lengthways up and down in

the bark, and between the bark and the wood; on either side of these are smaller channels, in which larvæ are ensconced.

LIFE HISTORY.—The female beetle may be seen flying towards the end of April. It bores holes in the bark, or rind, of the branches or twigs of trees, and forms channels as described above, about half an inch long, close to the wood, placing its white eggs with some regularity upon either side of these. Larvæ come from the eggs in a few days and begin to feed on the bark, making branch channels nearly at right angles with the main channel. At the end of these branch channels the larvæ make a small hollow, generally in the woody part, to form receptacles for pupation, in which the pupæ are lightly covered with frass. After pupation the beetles bore holes through the bark and escape. There are at least two generations of this insect during the year, and the winter is passed in the larval state, so that active injury is continued almost throughout the year. The beetle is barely one-tenth of an inch long and black in colour, except the ends of the wing covers, legs, and the much-clubbed antennæ, which are of a russet colour. The thorax and wing covers are much wrinkled and punctured. The larva is not quite one-tenth of an inch long when extended, it is milky white, without legs, and has a chestnut-coloured head furnished with strong black mandibles. The upper part of the body is considerably thicker than the lower part, and it lies in a curved position.

METHODS OF PREVENTION AND REMEDIES.

Not much can be done against this insect in the way of prevention or remedy. All the branches and limbs that are infested should be cut off and burned during June before the beetles have escaped. Where a tree is badly infested in various places it should be cut down and burned during June, so that larvæ, pupæ, and beetles may be destroyed. In orchards, fruit plantations, and gardens where there is considerable infestation, it would answer to adopt the American recommendation to ring, or girdle, worthless trees that are either unfruitful or already decaying. This is done by cutting strips of bark round the trunks in the spring, and letting them remain until the following June, to serve as traps for the beetles, which will be attracted and lay eggs in it. The trees should then be cut down and burned during the ensuing June before any of the beetles escape from the colonies within. It is feared that the application of noxious compositions would be quite useless as a means of preventing the beetles from boring into trees, unless all the trees in an orchard or fruit plantation were similarly treated, which would be a difficult and costly process. When the beetles have once got into the bark no amount of syringing would affect them. In the case of gardens with two or three trees only, these might be syringed, or daubed over, with a very thick wash of an offensive nature, such as thick paraffin emulsion, before the leaves and buds showed, so as to prevent egg-laying where an attack is feared. When there is decided infestation in the case of a few trees in a garden, it would pay to examine every branch carefully, and cut away and burn all those which have the typical holes. This beetle is destructive to fruit trees in the United States and in several European countries. In the United States it is kept down by parasites, species of Chalcididæ, one of which was identified as Chirophys colon, and another was probably Pteromalus maculatus. The beetles and larvæ sent to the Board of Agriculture were kept in glass-topped boxes, and at least two species of Chalcididæ appeared from them.

FLOWER GARDEN.

GENTIANAS.

GENTIUS, King of Illyricum, the eastern boundary of the Adriatic, was taken prisoner by the Romans about a century and a half before the Christian era for encouraging pirates, and died in custody. He discovered that a certain plant was a very good tonic, and that plant has ever since been called *Gentiana*, after him. This plant is generally supposed to have been the tall, coarse alpine, common in mountainous districts in Central Europe, and known to botanists as *G. lutea*, a preparation of which is still in high repute as a medicine. The Roman naturalist, Pliny, however, tells us that the Gentian has leaves like an Ash tree,

or *G. nivalis*, it is at once obvious that the genus cannot be discussed collectively, but that each species must be dealt with separately. It can hardly be claimed that more than five species are in common cultivation in English gardens.

G. LUTEA is not very often seen, probably because it is not very attractive as an ornament, and not because there is anything difficult in its treatment, as it will grow in any strong and well-drained soil, and continue healthy without attention for many years. It grows more than a yard high, with stout plantain-shaped leaves and four or five close whorls of flowers of a dull yellow colour. It cannot be divided or transplanted when old, and must be raised from seed, which it ripens abundantly.

G. ACAULIS, the common *Gentianella*, is known to everybody, but cannot be grown successfully

to it. In many of its native places it is probably frozen every night whilst in flower. The seedlings should be planted in trays, and the contents of the tray, when two or three years old, turned out entire in spring into the place they are to occupy permanently. If planted out in autumn the frosts of winter push the plants out of the ground.

G. ASCLEPIADEA is very robust and lasting in Edge Garden, in which *G. acaulis* is hardly a success. It is better to raise it from seed than to divide old plants, which take long to recover, and do better when left alone, growing in sheltered and well-drained borders 2 feet high and as much across. There is a variety with dingy white flowers, growing stronger than the type but less ornamental.

G. SEPTEMFIDA, the subject of the accompanying illustration, is the most easily cultivated species except in dry, sandy soils. The name, which means seven clefts, has been explained as referring to the scales between the divisions of the corolla, which are fimbriated, and may sometimes be found to have seven points; others allege that it is because the flowers in a cluster are often even in number, but these are poor apologies for an inept name. It is evident to anyone who reads the description of the plant given by the German botanist Pallas, who discovered it more than a century ago, that the specimen from which he took his characters was abnormal, having seven divisions in the corolla instead of the usual five. The words of Pallas are, "*Corollis septemfidis quinquefidis que laciniis intercalaribus ciliatus*" (having the inserted scales fringed). The plant is figured in the *Botanical Magazine*, t. 1229 (A.D. 1810), and Sims, who wrote the letterpress for that volume, rightly says that the corolla is divided "for the most part into five, sometimes six, rarely seven, laciniæ." The illustration shows two or three with six, but I recognise none with seven, though amongst the many plants in my garden some are easily found with seven. This desirable species ripens seed plentifully, but grows slowly and lives for many years. The height varies from 3 inches or 4 inches to 18 inches. A dwarf strain may easily be obtained, as the seedlings follow the stature of the parents, and the low growth is neater than the taller.

Edge Hall, Malpas.

C. WOLLEY-DOD.



Gentiana septemfida in Rev. C. Wolley-Dod's garden at Edge Hall, Malpas. From a photograph by Miss Wolley-Dod.

and Dioscorides, who wrote a Greek work on medicinal plants about the same time, says it has leaves like a Walnut tree. These statements are not true of the yellow Gentian, but both Pliny and Dioscorides described many plants about which they knew little or nothing, and, in spite of their statements, it is probable that this type of the genus is the plant originally named after King Gentius.

The genus *Gentiana* is a very large one. The names and synonyms of the species occupy nearly twelve columns of fifty names each in "*Index Kewensis*," and perhaps there are over 200 good species known to botany. But the number of these in common cultivation is comparatively very small, and when we consider the vast interval in stature and habit between *G. lutea*, the type, and such dwarfs as *G. verna*

in every garden; yet those fortunate people in whose gardens it grows well without difficulty are apt to look with pity, not without some contempt, on others who cannot grow what seems to themselves so easy a plant. And yet they cannot tell the reason why their friends fail, and cannot teach them how to succeed. *Gentianella* is an excellent test of a good and well-drained garden soil, and where the subsoil is cold and wet, and the atmosphere tainted with stagnant damp evaporating from the ground, this mountain plant is one of the first to show the unfavourable conditions, which little can be done to remedy.

G. VERNA requires made soil to a depth of a foot or more, and even with that there are few gardens in which it will last more than four or five years without being renewed from seed or from the nursery. It wants well watering in dry weather through summer, and warm, wet winters are unfavourable

Pentstemon George Fisher.—This is a very fine variety. The spikes are large and the individual flowers are as large as those of a medium-sized *Gloxinia*, much more open in front than in the majority of kinds. The colour externally is a very bright rose, almost crimson, while the throat is pure white, the margin bright rose. It is one of the best of a number of named kinds I grow, and a fine garden plant in every way. The poor strains of flowers often sold prevent many people raising these plants from seed, otherwise a useful stock of plants is soon obtained in this way.—H.

Rock Roses.—Common and fleeting as are the different varieties of *Helianthemum*, they are charming while they last, one sunny day being the whole life of thousands of the bright little blossoms. At the foot of rockeries or the front of herbaceous borders they have a beautiful effect while in flower, and the loose rambling tufts of foliage are not unsightly at any time. The colour of the many forms of *H. vulgare* differs considerably, from the yellow of the type to pure white, while many shades of red may be found. One sent out under the formidable name of *Red Dragon* makes a very pretty show just now.

Herbaceous Phloxes.—Looking over a big breadth and a very fine representative collection of hardy Phloxes that were lifted and transplanted last winter into fresh soil, and noting how great generally was the failure on the part of the plants to make good growth—indeed, not a few had died and others were wretchedly poor—I could but think how great was the mistake made in thus troubling to lift, divide, and replant old stools when the taking off of a few shoots from the crowns of the stools in March, putting them into

sandy soil in pots, and standing them for a few weeks in a warm house or frame to root would have given a great abundance of stout plants to bloom finely the same season. There would have been no failure in such case. The young plants could have been put out singly, or in clumps of three or four if so desired. It does not seem to be understood that each spring a shoot from any herbaceous plant seeks to make its own roots, and thus find its own separate subsistence. That the summer shoot cannot do when it is one of many growing from out a thick cluster of roots that already occupy the soil and subsist upon it. In such case no wonder that annual growths become weaker yearly. Thus with Phloxes. If these rooted cuttings be planted out singly, they are in the season invariably far stouter, more fully leaved, and, because they have ample light and air, much dwarfer, yet carry very much finer heads of bloom. Such plants will do very well the second year if the summer shoots be thinned to a few, but these will be taller than were those of the first year. Those who have good Phloxes should not fail to propagate every year.—A. D.

CUP-SHAPED LILIES.

By Mr. Baker the different Lilies are divided into five groups, to which distinctive names have been given. The sub-genus *Isolirion*, which is characterised by erect flowers more or less cup-shaped, does not include a very large number of species, but amongst them are some of the most useful Lilies that we have for the open border as well as some of the earliest. One of the best known of this group is *Lilium elegans*, or *Thunbergianum*, which is quite a dwarf Lily, though some of the varieties are taller than others. One of the dwarfiest of all is *alutaceum*, whose heads of yellowish buff blossoms are borne on stems little more than 6 inches high. Another variety, *Prince of Orange*, is much in the same way, but the flowers are of a richer yellow. A very prominent feature of *L. elegans* is the great range of colour that occurs in the different varieties; thus, besides those just mentioned we have various shades of red, orange-red, and crimson, to the deep blackish maroon flowers of *Horsmani*, one of the most striking by reason of its colour, as well as one of the rarest of all the varieties of *L. elegans*. Other distinctions occur in the varieties of this Lily; thus *staminosum* produces double blossoms, while though *L. elegans* is regarded as an early Lily, and some of the varieties are among the very earliest, yet one, *venustum*, is much later in flowering than any of the others. All of those just mentioned do well in any ordinary garden soil, particularly if it has a basis of sandy loam. They may also be successfully flowered in pots as well as in the open border. One great merit possessed by them is the fact that they can be depended upon to bloom well the first season after planting, a remark that also applies to most of these cup-flowered Lilies. In the open ground they may be planted in various ways, one method very popular of late being to associate them with low-growing shrubs, while if a Lily border is formed they make a suitable foreground to the larger growing species. In any case these small-growing kinds must not be dotted indiscriminately here and there, but enough of each kind should be planted to form a bold clump or clumps, as it is only in this way that the beauty and distinctive characters of the several varieties can be seen. Next in popularity to *L. elegans* comes *L. umbellatum*, sometimes known as *L. davuricum*, of which there are several forms in cultivation. They are taller growers than most of the varieties of *L. elegans* and the range in colour is not nearly so great, consisting principally of various shades of orange-red. They form first-rate subjects for the outside border and are thoroughly hardy. The next of this group to be mentioned is the old orange Lily (*L. croceum*), which is, I think, entitled to a place among the finest of all Lilies. It is somewhat later in blooming than any of the preceding, and though grand masses of its warm, orange-coloured flowers may

be frequently seen in cottage gardens, it is, strangely enough, not readily obtained from dealers, for frequently a form of *L. umbellatum* is made to do duty for it. A well-known yet scarce Lily of this section is *L. bulbiferum*, characterised by the production of small bulbils in the axils of the leaves, as in the case of *L. tigrinum* and *L. sulphureum*. *L. bulbiferum* grows as a rule from 3 feet to 4 feet high, while the flowers, instead of being arranged in a close, compact head, as in most forms of *L. umbellatum*, are disposed rather in a deltoid raceme. The flowers are borne on long stalks, so that each individual bloom is almost, if not quite, clear of its neighbour, and in a vigorous specimen the head of flowers forms quite a broad pyramid. The colour of the flower is a warm orange-red—a very pleasing and attractive tint. *L. bulbiferum*, which is a native of Central Europe, blooms in June at about the same time as the forms of *L. umbellatum*, but its flowers last much longer than any of them. Another species belonging to the *Isolirion* group is the Japanese *L. Batemannia*, whose warm apricot-coloured flowers are borne, as a rule, in the early part of July. It is a pretty Lily, but is rather more fastidious than most of this section. A North American species—*L. philadelphicum*—is totally distinct from any other of this class. The leaves of this are usually arranged in whorls, while the flowers, which are large for the slender stem, are yellow, tipped with red, and more or less spotted with maroon. This does, as a rule, better in a fairly moist soil containing a good proportion of peat than it does in any other. It is an old species, but not often seen. *L. Wallacei*, which was figured in *THE GARDEN*, January 30, 1897, is another of this group. In general appearance it bears a considerable resemblance to some forms of *L. elegans*, but its bright apricot-coloured flowers are rarely borne till the early part of August, while it increases by division of the bulbs more rapidly than any other Lily, though the Japanese *L. concolor* behaves much in the same way. It is certainly a very beautiful Lily, and perpetuates the name of one of the most ardent lovers of this class of plants, a name well known to all cultivators of Lilies. Two Japanese forms, *L. Coridion* and *L. concolor*, as well as the Siberian *L. pulchellum*, are pretty little Lilies of this section, the first-named bearing yellow and the two others bright crimson blossoms. They are all charming little Lilies, but far more particular in their cultural requirements than most of those previously mentioned. A well-drained, yet not a parched-up soil, of loam, peat and sand, seems to suit them best. H. P.

TUFTED PANSIES.

THE advent and subsequent rapid development of the taste for the massing or bedding in flower gardening which evoked so much enthusiasm among gardeners and amateurs some forty or fifty years ago will well be remembered by those of the present day who helped in the management of the many gardens where this system was so well and so largely carried out. So much, indeed, in my own recollection did this develop into a craze, that there seemed to be a danger that the grand old herbaceous and alpine plants, the pride of our fathers and the glory of their gardens, were doomed either to extinction, or at the best only to be preserved in botanical collections, while gardeners themselves, trained more to appreciate the merits and distinctions of the more fashionable so-called bedding plants, seemed to forget that the hardy perennials were as decorative and as worthy of attention as they used to be. There are, indeed, obvious signs of a marked change in this direction, and bedding, as formerly practised with tender showy things, will continue so long as there is an appreciation of gaudy coloured flower beds. As a natural result of the new fashion in flower gardening, plants with continuous flowering properties, distinct and striking colours, and compact habit of growth grew rapidly in favour. Geraniums, Calceolarias, Verbenas, and other flowers of similar character were

largely employed, any new acquisition being hailed with delight. Pansies, too, which as florists' flowers had their hosts of admirers, were duly pressed into the service, but with all their beauty in spring and early summer it was found that, notwithstanding their dwarf growth, they could not be relied upon to maintain their flowering in light, dry soils and very dry, parching, sunny weather in July and August; hence blanks appeared in the borders and beds at the very season when perfection was most desired. A perpetual flowering Pansy with richly coloured flowers equal in habit to the existing sorts, and a constitution strong enough to bear, if not enjoy, the parching ordeal of July, was much to be wished for, and sure to be cordially welcomed by those interested in the beauty of the flower garden. Some thirty years ago it occurred to Mr. James Grieve, then manager to Messrs. Dicksons and Co., of Edinburgh, and now head of the nursery firm of James Grieve and Sons, Red Braes, Edinburgh, that the result could be obtained by crossing the existing Pansies with some of the wild native species, and, acting on this idea, he at once put those of the neighbourhood under cultivation, forming the foundation of the grand race of Tufted Pansies which now are such prominent objects in our flower gardens, and indispensable wherever a gaudy show of colour is desired. Innumerable varieties have since been added both by himself and others of like tastes. It may be added that many of his first trophies are with us still—among these, *Golden Gem*, *Grievei*, both capital yellows, and both with the blood of *V. canina* in their veins, with many others, the result of hybridising *V. tricolor*; while from the alpine *amena* have sprung some of the various shades of blue, lilac, and purple, so much and deservedly admired.

On a recent visit to the Pansy ground of the firm I found 160 varieties in cultivation, while thousands of seedlings are on their trial; and such is the demand, that nearly 100,000 are required for the spring supply. From such a large and varied collection it seemed very difficult to select a moderate number of really distinct and striking sorts, and I confine myself to a few as probably the most desirable, at least to those who have limited space:—

YELLOW.—Bullion, Mary Gilbert, Brilliant, Lady McDonald, Pembroke.

WHITE.—Countess of Hopetoun, Pilgrig Park, Marchioness, Pencaitland, Beautiful Snow, Christiana.

BLUE.—Blue King, Blue Gown, True Blue, Magnificent.

PURPLE.—Archie Grant, Holyrood.

LILAC.—Lilacina, Peach Blossom, Duchess of Sutherland.

BRONZE.—Joseph.

OMEGA.

Brompton Stocks.—Some forty years since my now deceased elder brother, W. Dean, took occasion in one of the gardening papers to show the error then, and apparently still, held that the double flowers of Stocks contain pollen. I have noticed that at page 5 of the present volume a writer, referring to the single nature of Brompton Stock flowers, expresses the belief that seasons or weather may materially affect the transference of pollen from double to single flowers; hence the lack of doubles in the progeny. But if anyone will take the trouble to examine a double Stock flower, especially of any Brompton variety, he will find that there is not the least evidence of any organs of fertility in these. It was in old days a recognised axiom that singles would not produce doubles by seed unless the two when in bloom were growing side by side. It was to disprove the incorrectness of that tradition the discussion referred to originated. Why good double strains of Stocks should revert to singles is very difficult to understand, but their doing so is nothing new. I have found it to be the case with scarlet and white Bromptons, with the branching Queens, and with summer Stocks. It must not be forgotten that the conversion of the true flower, with its

four or, at the most, five petals, and its organs of fertility into a barren floral branch, is but a sport, and nothing is easier than is reversion. It may be, in fact, but an effort of Nature to come back

they were stronger than he had ever seen them, as he had been feeding them, and that as long as no rich food was given there was no disease. I am convinced it is a mistake to give this Lily high living. In some of the cottage gardens in a village near here they bloom splendidly and never have disease. The plants never have any food, and have been in the same soil for the last eight or ten years.—DORSET.

THE CLEMATISES.

(Continued from page 348.)

SECTION II.—VITICELLÆ.

THE Viticellæ (Viticella, a little vine) are so called because, for the most part, they are climbing plants, like the Vine. The stems are branching, the leaves entire and glaucous, or nearly so, and the single flowers are borne on long peduncles in racemes or spikes. Larger than those of the paniculata, the flowers are medium sized, blue generally or purple in colour, and rarely white. The sepals, four in number, are when in bloom displayed crosswise.

There are four distinct types of Viticellæ: (1) Viticella, (2) Viorna (urnigera), (3) integrifolia, and (4) tubulosa.

1. VITICELLA.

These are the Viticellas proper, high-climbing plants, the type of which has flowers with four crossed sepals. In this group I place *C. revoluta*, *crispa*, *campaniflora*, and *divaricata*. The more natural way would be to make one distinct group of these, with *C. campaniflora* for the type, and give them one common name, as *C. campaniflora*. The Viticella forms differ from the Viorna

and urnigera forms in the flowers, which, instead of being pitcher-shaped, are cylindrical, the sepals being also revolute.

1. *C. VITICELLA* (Linn.).—This is the type of the section. It was formerly known as the "blue" Clematis, under which name it is described in the "Encyclopédie Methodique" and elsewhere. Its place of origin is Southern Europe, Spain, and Italy, but its geographical area extends even as far as Asia Minor and Persia ("Index Kewensis"). Thus the blue Clematis belongs, among the Viticellas, to the Mediterranean region, like *C. Flammula* amongst the *C. paniculata*. Its first introduction to France took place in 1569, and it soon became a favourite in gardens, where its blue flowers with their sepals, four in number and crossed, caused quite a sensation when placed alongside the smaller white flowers of *C. Flammula*; and as a climbing plant it was quite as well fitted to the adornment of trellises and arbours. Later *C. Viticella* was to play, as a seed-bearer, an important part in the production of the large-flowered Clematis,

not to mention the use which was to be made of the roots in grafting. *C. Viticella* has a number of varieties bearing purple, red, rose-coloured, violet, white, and double blue flowers. There is a dwarf species likewise in cultivation (*Viticella nana*), and, in late years, several interesting hybrids have been obtained, of which I shall speak in due course. The old double variety (*Viticella plena*) is still in cultivation. It is a pale blue flower with a tinge of red; the four large sepals fall off, leaving the centre of the flower to continue long in bloom with a great number of small petaloid sepals, which in falling strew the ground. These are produced at the centre, which is sometimes proliferous, as in the case of *C. florida plena*. *C. Viticella* is a charming Clematis, and from the facility with which it ripens its seeds it has proved of great value to the hybridiser. By using the purple forms of *C. Viticella* of late years the magnificent large and red flowers of *C. Mme. Furtado Heine* and *Mme. Ed. André* have been obtained from *C. Jackmani azurea* and *lanuginosa*.

2. *C. REVOLUTA*.—This is not a white variety of *C. Viticella*, but a distinct species with smaller, white, and revolute flowers, the leaves also being distinct, larger, and of a brighter green. I have cultivated it along with a Clematis which came to me under the names of *parviflora* and *capaneaeflora*, and is a mere variety scarcely to be distinguished from *revoluta* by its flowers being slightly tinged with violet, or lilac, on the outside. Moreover, *C. parviflora*, although described as a species by Candolle, is commonly considered the same as *C. revoluta*.

3. *C. CRISPA*.—This Clematis is of North American origin. Brought to France in 1726, it never became popular, and has been confused with other and allied species. I believe it came to me as *C. Shillingi*, a climbing species with rose-purple and fairly large flowers, and the sepals connivent at the base and wrinkled and curling at the edges.

4. *C. CAMPANIFLORA* (Brot.) (the bell-flowered Clematis) I have long cultivated. It is allied to the preceding, and through its flowers with their half-connivent sepals it forms a link with the urnigera of the next group. It is a charming species, with smooth, deep green leaves and graceful flowers of delicate purple-blue colour. It comes from Portugal, and has been in cultivation in France since 1810. Candolle classes it with *C. Viticella* on account of its seed-heads, which are bare and beardless.

5. *C. DIVARICATA* (Jacq.).—Under this name I saw in the museum at Paris a quite distinct species, which came into commerce under the name of *C. Camuseti*. Its flowers are fairly large, violet



Gentiana asclepiadea. (See p. 37.)

to its pristine habit of seed-production. It is also possible that liberal cultivation tends materially to destroy that doubling tendency which seems to be largely created in Stocks by artificial methods of culture, especially in pots and under glass.—A. D.

Four good Tufted Pansies.

—All will agree that Tufted Pansies are a most important class of hardy plants. Many of the old kinds hold their own now, and I doubt if ever they will be beaten from a free blooming point of view. Another recommendation many of the old kinds have is that they are decided in colour. The following are my favourites: Archibald Grant is a grand indigo-blue, the flowers large, and especially when the plants are young and growing in rich soil. With me this does not bloom as long as Ardwell Gem, which is very dwarf and very free blooming. As a white I cannot find any colour to surpass Countess of Hopetoun. It is a compact in habit and keeps up a good succession of bloom. Those who want an attractive parti-coloured kind should grow Countess of Kintore. It is a deep blue-purple with broad edge of white. I have grown these kinds largely for upwards of a dozen years and see no reason for changing.—D.

The Madonna Lily diseased.—This disease is very troublesome, and does not seem as if ever it will be exterminated. Mr. Burrell makes some remarks anent the disease, and he is under the impression that it is atmospheric. In this I am at one with him. But whether this is brought on by giving the plants too much rich food, and thereby producing a soft stem and leafage, I cannot say. Everyone knows only too well that many plants and animals are predisposed to some forms of disease when they are gorged by rich food. At the end of June I was looking over a villa garden in Chard, where I have seen some of the finest flowers of this Lily. They are growing at the foot of a south wall, and to my surprise they were one mass of disease. I remarked to the owner as to their condition, and he said that



Gentiana acaulis. (See p. 37.)

in colour, and half displayed. It is a climber, but subfrutescent, and rises to a height of a little over 6 feet.

2. VIORNA (URNIGERA).

I place the urnigera apart from the Viticellæ proper. They form with *C. Pitcheri* and *C. coc-*

cinea a distinct race, characterised by little bell or rather pitcher-shaped flowers. I describe here five species, viz., (1) *C. Viorna*, (2) *C. Pitcheri*, (3) *C. coccinea*, (4) *C. reticulata*, (5) *C. cylindrica*.

1. *C. VIORNA* (Linn.).—This is not to be confused with our own hedge Clematis (*C. Vitalba*). It originally came from Northern America, Virginia, and Carolina. It is the oldest known type among the urnigeræ (*C. urnigera*, Spack.), having been known in Europe since 1730. *Viorna*, like the other species of this group, is classed among the *Viticellæ*, notwithstanding that these have their carpels furnished with feathery tufts. It is characterised by its upward-growing stem and the pitcher-shaped flowers, purple on the outside and yellow within, the sepals being thick and leathery, so to speak, and connivent for half their length.

2. *C. PITCHERI* (Torrey and Gray).—*C. Pitcheri* flourishes in the United States of America from Illinois to Mexico. It is closely allied to *Viorna* through its pitcher-shaped violet or violet-grey flowers, as I recently saw on examining the buds of a specimen in cultivation in the Naval Botanic Gardens at Brest. The leaves are rounded and of a glaucous, almost bluish, green. The four thick, fleshy sepals, borne upon a long coloured pedicel, are abruptly contracted; the open and slightly revolute divisions are a yellow-green within, leaving the stamens exposed to view. *C. Pitcheri* begins to flower in May.

3. *C. COCCINEA* (Engelman), *C. TEXENSIS* (Buckley).—Professor Buckley found this on the banks of rivers in Texas. Its flowers, which are larger than those of *C. Pitcheri*, are of a vermilion-carmine on the outside and yellowish within. These two forms of *C. urnigera* have been intercrossed by MM. Morel, of Lyons, Paillet, of Chatenay (Seine), Otto Fröbel, of Zurich, and the result has been the production of novelties possessing a habit and flowers of remarkable diversity.

4. *C. RETICULATA* (Walt.).—*C. reticulata*, or pocket flower Clematis, is allied to *C. Viorna*, and, like it, originated in Carolina and Georgia. It was introduced into Europe in 1812.

5. *C. CYLINDRICA* (Sims).—This blooms in June, and is apparently a link between the *Viorna* and *integrifolia* groups. It is distinguished by its flowers of a fine bright blue and by its crumpled sepals arranged cylindrically. Hence the name. Like all species of this group, *cylindrica* belongs to Northern America—Pennsylvania and Carolina—and was brought to Europe in 1802.

3. INTEGRIFOLIA.

This group comprises only a small number of species. Candolle in his "Prodromus" only describes four—*C. integrifolia*, *ochroleuca*, *ovata*, and *gentianoides*. The last-named, which is a New Holland species, came to me from the Muséum at Paris, and I classed it among the *aristata* group, or Australian Clematises. The yellow-flowered Clematis (*ochroleuca*, Ait.) appears as one of those in cultivation in European gardens in Jacques' Manual, 1845. I have no personal knowledge of it. Like *C. ovata* (Pursh.), its home is North America. Both are distinguished from *C. integrifolia* by their oval-shaped leaves.

C. INTEGRIFOLIA (Linn.).—This is the oldest known species (1596), and came originally from the Pyrenees, Hungary, Siberia, and Tartary, that is to say, Southern Europe and Northern Asia, two very different geographical areas from the point of view of climate, a strange and rather exceptional fact. *C. integrifolia* is perennial like *C. erecta*, and has the leaves entire, dark green, oval-shaped, and slender. The handsome drooping dark blue flowers are borne upon one-flowered peduncles. It is cultivated in many gardens, and presents a certain number of varieties, notably—(1) a variety the leaves of which are sometimes entire and sometimes divided (*C. integrifolia* var. *diversifolia*); (2) a handsome hybrid known

to commerce as *C. integrifolia* Durandi. This last is higher than the species, has larger flowers, and a long and recurving bloom. *C. integrifolia* has been used for crossing with other species, notably *C. Viticella*, whereby is derived the hybrid variety Hendersoni, which M. Decaisne has classed as a species under the name of *C. Eriostemon*. I had a correspondence on the subject, in the course of which I related my observations as regards this sub-frutescent, non-climbing Clematis, which I consider a true hybrid, of which the feathery seed-heads are nearly always sterile.

4. TUBULOSA.

This forms an extremely natural group, characterised by strong, straight, and generally low stems, sub-frutescent and very leafy, the leaves being large, trilobed, and thick, the flowers small and in whorled spikes or cymes, with revolute sepals like those of the Hyacinth. About 1880 M. Decaisne and, subsequently, M. Lavallée wrote a monograph on this little family of Asiatic Clematises, which belong rather to the realm of botany than to horticulture. M. Decaisne described eight species: *C. tubulosa*, *Davidiana*, *Hookeri*, *Stans*, *Kousabotan*, *Savatieri*, and *Tatarinowi*. I shall only speak of the three first species, which I know personally.

1. *C. TUBULOSA* (Turck.).—This Clematis originally came from China and Mongolia (*C. tubulosa mongolica*), from whence it was introduced into Europe in 1837 by the Russian botanist Turckzaninow. It is perennial, or rather sub-frutescent, with thick upright stems from 16 inches to 24 inches in height. The leaves are dark green, thick, and tough. The flowers are on a whorl and bell-shaped, the colour azure-blue, of a deeper shade without than within. I have long cultivated this spreading Clematis, and have found it quite hardy and interesting from its distinct growth and September bloom.

2. *C. DAVIDIANA*.—This species was raised from seed sent from China to the Muséum at Paris by the Abbé David. It is allied to the preceding by its foliage and its indigo-blue flowers in whorls.

3. *C. HOOKERI* (Dne.).—According to Hooker this is merely a variety of *C. tubulosa*.

C. SAVATIERI is the only branching form of *C. tubulosa*, and never exceeds 4 yards or 5 yards in height.—DR. JULES DE BELE, in *Bulletin d'Horticulture de la Sarthe*.

(To be continued.)

SOME USEFUL SUMMER-FLOWERING CREEPERS.

WHEN recently at Reading I was much interested in what might be termed a trial of summer-flowering climbers. The whole of them had been raised from seeds sown in the spring and planted out to flower. Amateurs with limited room and means are frequently found inquiring what can be grown for covering bare places or for training up pillars. In the case of this trial a good portion of a south wall had been given up to the purpose. The various plants used had been planted long enough to have made a good start and some were already in flower. About 2 yards of wall are given to each; so a good and reliable test is afforded.

There was of course the Canary Creeper, and as there was ample space of wall, two or three patches had been planted alternating with other subjects. The plants had made a free growth and were just coming into bloom. Like the Mignonette and Sweet Pea, this charming species must find a place in every garden, for it is indispensable to the summer display. There was Lear's *Convulvulus* (*Ipomœa Leari*), which, though classed among stove climbers, will yet with proper management flower well in the open air if it can have a warm sunny position and good soil. It was making a free growth despite storms and cold nights. A portion was given up to the major *Convulvulus*, of which there are several handsome varieties. This is frequently seen in gardens, but is not nearly so well cultivated as it deserves

to be; as a consequence the blossoms are small and the bloom short-lived. The old *Mina lobata*, now to be known as *Ipomœa versicolor*, was here also. It is well named, because the blossoms, at first rosy crimson, change to orange and pale yellow. As it is not quite hardy it should not be put out in the open until warm weather is assured. *Maurandya Barclayana* was among them, and also another well-known species, *M. scandens*, formerly classed as *Lophospermum*. Both these can be raised from seeds readily enough for this purpose. They are half-hardy, bloom freely and for a considerable time. Both are very useful in the garden, and should have good cultivation. Then there is the Chilean *Loasa lateritia*, or, according to the seed catalogues, *aurantiaca*. This produces large dull red, attractive flowers. It can be raised from seeds without difficulty, and is highly effective when at its best. *Eccremocarpus* (*Calampelis*) *scaber* is also indispensable. This is a hardy perennial in the south, but of doubtful hardiness in the north, except in favourable localities. A little protection to the roots during winter can be afforded without much trouble. It is a vigorous grower when established, the flowers are freely produced in clusters, and, being gold and red, are very showy. It is a fine old and very popular climber, and can be raised from seeds sown in March. That form of the Hop known as *Humulus japonicus* and its variegated variety were also here, hardy, free-growing plants, which soon cover a considerable space. The variegation on the variegated form is distinct and striking. Lastly came a patch of a bright crimson form of *Tropæolum Lobbianum*, which was blooming freely and helping the variety found in the collection.

As so many of the foregoing can be raised from seeds, they are adapted to those with limited means.

R. D.

NOTES AND QUESTIONS.—FLOWER.

Crepis sibirica.—The shade of colour given to this plant in a recent issue was due to a clerical error, and is as stated originally by Mr. Wolley-Dod.—E. J.

Double tuberous Begonias.—I have eight large beds planted out from seed saved from the finest and most erect *Camellia*-shaped blooms. The great point when selecting flowers to work from is to see that no drooping-habited varieties are used. My plan is to decide first shape, then colour and habit.—W. BAYLOR HARTLAND, *Ard-Cairn, Cork*.

Nemesia strumosa Suttoni.—A large patch of this half-hardy annual I lately saw was very effective. This annual is not so suitable for growing in the form of individual plants as in a mass, therefore a large patch should be somewhat thickly sown, the result being a dense head of striking bloom. It is an annual that possesses a marked individuality of colour, and, though it loses its foliage quickly, the loss is not so noticeable when it is sown thickly.—R. D.

Lathyrus cœruleus.—I am employing the modern but incorrect term "cœruleus" to indicate the beautiful blue form of *Lathyrus sativus*. It is found in some catalogues under the name of *azureus*, or as Lord Anson's blue Pea. We have few annuals which give such a charming hue of blue as this Pea, but it possesses the fatal habit of some of the perennial Peas—the flowers speedily burn under the action of the sun. This Pea should be sown in the autumn and kept in safety through the winter to flower in spring to see it in all its beauty.—R. D.

Blue Primroses.—It would appear that the Oakwood blue strain of Primrose comes very fairly true from seeds. Judging from the naturally sportive nature of this flower, I was of opinion that not more than 2 per cent. of the seedlings would produce flowers of a true blue shade. I have seen several lots of plants this spring raised from purchased seeds, the produce being really satisfactory. It would appear likely, therefore, that in time quite 90 per cent. will come true. These blue Primroses are so distinct that they

must eventually find their way into most gardens.—J. C. B.

Iris caroliniana.—Mr. Ley's description is correct as far as it goes, and his plant is part of the original find. Mr. Baker's description of this species needs revision. It may be botanically near *I. versicolor*, but from a garden point of view it is a very distinct plant. It wanders, or pushes its growth further at the roots than *I. versicolor*, but like that species seems as contented in dry, stiff soil as in brackish water where sometimes found. *I. caroliniana* seems to be rather uncommon, was found first near Newbern, N.C., but has been lately discovered as far north as Southern New Jersey.—J. N. GERRARD, *Elizabeth, New Jersey.*

ROSE GARDEN.

ROSES IN THE GARDEN.

APART from growing fine specimen blooms, there is a great field open to lovers of Roses grown in various ways simply as beautiful garden plants, and now in their rich profusion no one will decry their claim to universal popularity. Large old plants of Gloire de Dijon and other nearly related Teas, also Cheshunt Hybrid, William Allen Richardson, and some of the older Hybrid Perpetuals, as General Jacqueminot, Alfred Colomb, and others equally well known, have been most beautiful with me, and the same is true of the pink Moss and Celine Forestier, which planted side by side flower about the same time and form a fine contrast to each other. Paul's Carmine Pillar was the first Rose to open, its rich colour and free-flowering nature making it a great favourite. Crimson Rambler will follow it closely, but though I am willing to admit this makes a fine show, it is certainly less beautiful in the open than under glass owing to the peculiar tint of the foliage. The copper and yellow Austrian Briers and the Penzance Sweet Briers, such as Lord Penzance, Meg Merrilies, and others, are showy and sweet, while the delicate flowers of the rugosa type are just at their best. There are a freedom and grace about these single and semi-double Roses that are lacking in the very double kinds, and though such as Belle Lyonnaise and Climbing Souvenir de la Malmaison have scores of buds upon them, the almost continuous rain has prevented their opening freely. The latter, as I have it here, is a fine climber, the flowers deeper in colour than in the old variety. Climbing Captain Christy, on the other hand, is a fine summer Rose, and very beautiful in its pale flesh tints. H.

Rose Leda (Damask).—It must be because it is not known that this pretty old Rose is so seldom seen. Years ago it was largely grown, but the introductions of the last twenty years have almost crowded out these old-fashioned kinds. Very few would refrain from adding Leda to their collection if they were to see it when well grown. Its flowers are of the peculiar crumpled form often seen in these old-fashioned sorts. The colour is bluish-pink, and the petals are margined with rich lake. We have no prettier Rose in all the old-fashioned tribe than this, and it deserves a better fate.

Polyantha Roses as dwarf standards.—These excellent miniature Roses, when budded upon hedge Briers from 12 inches to 18 inches high, make most lovely objects for standing singly upon the lawn or for planting in the centre of beds of this class. Perle d'Or when thus grown is charming—indeed, all the tribe would be suitable. Mme. E. A. Nolte, Gloire des Polyantha, Perle des Rouges, Anna Marie de Montravel, Mosella, and Blanche Rebatel should be given a

trial in this way, and I am sure the desire would be to increase the number. It is so usual to see these Roses recommended for edgings to Rose beds, that one is apt to overlook the fact that there are other ways of making them useful.—P.

Rose Ma Surprise.—This was raised by M. Guillot and was introduced about twenty-five years ago. It is undoubtedly the result of a cross between the Teas or Noisettes and *Rosa microphylla*, for although we have a suspicion of the peculiar Beech nut-like calyx of the type, the flowers are as refined as those of any Tea Rose and sweetly scented. They are also of good size, quite 4 inches in diameter when expanded, double, and of a beautiful ivory-white shade, with salmon and peach-coloured centre. It is a good autumnal variety and grows with remarkable vigour, the growths greatly resembling those of the Teas. There is no variety among these latter of the same mixture of colours, and I believe it would become popular if more widely distributed.—P.

Rose Dometille Becar (Gallica).—A striped Rose of the perfect globular form of an Alfred Colomb is an acquisition. It is, of course, not so large as this grand variety, certainly not more than one-third the size, but large striped Roses are not wanted. The markings in this variety seem so refined; there is none of the garishness of a Rosa Mundi about it, which to some individuals is anything but pleasing. The colour of Dometille Becar is a delicate ivory-white, striped and splashed somewhat irregularly with clear rosy pink. It flowers freely and is a good grower, forming an interesting pillar variety. It is needless to add that such a Rose will repay anyone who gives it a little more consideration as regards feeding with liquid manure than is usually afforded these summer Roses.

Rosa fimbriata (hybrid rugosa).—One would take its flowers to be those of a finely-grown Dianthus were it not for the foliage. Its petals are not very numerous; usually about four rows compose the flower, but each petal is beautifully fimbriated, which is much accentuated by the edges of each one slightly turning upward. The outer row is almost pure white in colour, but the remainder are a delicate blush. Surrounding the stamens are three or four imperfect florets of a rich carmine-pink, giving a most artistic finish to a very uncommon Rose. It is not so free-flowering as many of the *R. rugosa* forms, but no doubt plants of it trained in pillar form would yield a larger quantity of blossom. Its foliage is a refreshing bright green and almost oval in form. It is said to be a cross between *Rosa rugosa* and the Tea Rose Mme. Alfred Carrière, and it certainly exhibits much of the latter variety in its lovely foliage.

Combination of early-flowering Roses.—For all who can afford the space, large masses of one variety of Rose are always best, but where accommodation is limited, pretty effects may be secured by judiciously combining those kinds that flower simultaneously. As the centre to a good-sized bed, I would suggest about three or four extra strong plants of Carmine Pillar trained in pillar form, around these a circle of the hybrid Sweet Brier Amy Robsart, followed by circles respectively of hybrid Sweet Briers Anne of Geierstein and Lady Penzance, with another ring of the double white Scotch Rose, followed by yet another of *Rosa ferruginea* (syn., *rubifolia*), which would give an interesting band of coloured foliage if well cultivated. To complete the arrangement, a band of the Austrian Brier Harrisoni, followed by an edging of miniature Provence de Meaux or Spong might be used. If the size of plant be regulated when planting according to its position in the bed, a pretty, interesting, and effective, almost conical, mass of blossom would enliven the garden during the early days of June.

Rose Caroline Testout.—How is it that this Rose maintains its high reputation? One is not particularly attracted to it when seen in the exhibition box among its more perfect neighbours. If form were to be the pre-eminent quality, as some individuals would maintain, this variety

would be a long way down the list, for it certainly cannot claim the regular outline of its great rival, La France. Yet the fact remains that in the garden it is rapidly superseding the old favourite. The erect habit of the plant, the long flower-stalk, the exquisite bud, and the immense shell-like petals of the expanded flower all conduce to the undoubted popularity of the variety. Another point worthy of consideration to all who require quantities of cut flowers is that it is quite a week earlier than La France. By giving it a sheltered spot it might be had ten days in advance of other Hybrid Teas, and this would be of much importance in some establishments. The Americans are sending us a variety, named Mrs. Robert Garrett, which is to supersede Caroline Testout. If it does this it will have to be a wonderful Rose.

Rose Gloire Lyonnaise (H. T.).—As a garden Rose this possesses considerable merit. There is something peculiarly attractive about its large expanded blossoms, they being not at all formal. In the bud state it is very lovely, the colour being pale lemon, and although not quite so refined in form as those of a Tea Rose, these buds make very serviceable button-holes. The rigid growth and regular flowering of every shoot are all desirable qualities in a Rose for growing in masses. It, however, is not a variety one should plant in exposed positions, for it is a tender kind. The Brier is the stock for it, as it will not succeed at all on the Manetti, but it strikes freely from cuttings. This Rose is sometimes seen upon walls, and has probably been planted there instead of the more rambling Belle Lyonnaise, with which it is often confounded. The mistake has often turned out a happy one, and I can most certainly recommend it as a semi-climber. The wood is of a reddish colour and but very few spines appear, the foliage rather small, of a rich green colour, combining to set off to the best advantage its beautiful blossoms.—P.

Notes on early-blooming Roses.—The warm sun of the early part of June has had an effect on these in two ways, namely, in bringing many kinds into bloom on warm walls, as also in causing a severe attack of fly. This can be kept in check by the use of some wash. The new insecticide called "Abol" is a step in the right direction. The cold winds had a bad effect on the early-growing kinds in some situations, while in other positions they were untouched. During the last fortnight I have been cutting very nice blooms of Catherine Mermet from a south wall and from plants turned out of pots last June. On the same wall the lovely L'Ideal is in bloom. Mme. Falcot claims a place. I doubt if there is another Rose that gives such lovely buds, and this over a long season. Early in June I cut fine blooms from the same position. Some four years ago I had a big plant of Reine Marie Henriette in a pot, and I resolved to plant it out at the foot of a south wall. It is wonderful how it has grown, and now (June 16) it is a mass of bloom. Cheshunt Hybrid growing on a north wall is also doing well. I never have had Rêve d'Or bloom so freely as this year. Narcisse must have a word of praise as an early bloomer, and W. Allen Richardson is satisfactory on a sunny wall.—J. CROOK.

The four best Penzance Sweet Briers.—That there is too great a sameness in these Sweet Briers must, I think, be admitted by all who have seen and grown the whole collection of sixteen varieties. I think we may safely eliminate a dozen and retain the four following. The first must always be Lady Penzance, for with the exception of the Copper Austrian no single Rose is of so lovely a colour. The second variety should be Anne of Geierstein. It is a very brilliant kind of the colour of the Hybrid Perpetual Dr. Andry. It has two rows of petals, and is also a fine, strong grower, excellent for forming a tall hedge. Either Amy Robsart or Rose Bradwardine must take the third place, and I am in favour of the former. It is also a fine, strong grower. The flowers consist of two rows of petals and are of the shade of deep rose seen in the Hybrid Perpetual Mme. Bois.

As the fourth my selection would be Julia Manning. This variety has also two rows of petals of the most lovely pearly pink colour, so well exemplified in the Hybrid Perpetual Baroness Rothschild. Now what we require to make a good half dozen would be a rich velvety maroon and a pure white, and until these are given us I think the four varieties named will satisfy all tastes. Such Roses as these Hybrid Sweet Briers to be of real use should be effective when seen at some distance; therefore for this reason I have excluded Lord Penzance, for, although distinct and pretty, it has only the appearance of a Dog Rose a few yards away from the plant.—P.

NOTES AND QUESTIONS.—ROSES.

Rose Marie Pare.—This Rose appears to belong to the Chinas or Monthlies rather than the Bourbons, with which it is classed. It is said to be a seedling from Mrs. Bosanquet, and this surely is more a China Rose than a Bourbon. Whichever tribe it belongs to it is worth growing, and is a most attractive and free-blooming Rose. The colour is clear flesh-pink, deeper in the centre, of medium size, and fairly double. It is a good grower, not, perhaps, so vigorous as its parent.

Rose Camoens on dwarf standards.—This beautiful Monthly Rose (for such it really is in character, although belonging to the Hybrid Teas) makes a pretty show when budded on hedge Briers about 18 inches high; its innumerable and pleasing pink buds and blossoms are so well displayed in this form, and the quality is much superior. If a large mass were desired—and there is no better Rose for the purpose—a few of these dwarf standards to break the flatness would make a charming effect.

A dazzling crimson Rose.—I shall not soon forget the brilliant effect produced by a quantity of the China Rose Cramoisi Supérieur, budded upon Brier cuttings, which I saw last autumn. It was evident the plants had been well cared for, and it proved that if some of our commonest Roses were cultivated with the same care as exhibition varieties, many a grand old sort would be hard to surpass, even by the more modern introductions. Amid the thousands of Roses growing near this variety not one made the same gorgeous display as this fine old Monthly Rose.—P.

Rose Dupuy Jamain.—This grand old Rose holds its own even against modern introductions. The lovely smooth flowers are very fresh, of a clear cherry-rose colour. It is a distinct variety, with as good points as regards growth, free-flowering and freedom from mildew as any Hybrid Perpetual we have. It is one of the earliest to flower of this class and also one of the latest, and for the garden a better and more reliable Rose of its colour could not be named. It fully maintains the character of the red Roses in affording us the delightful fragrance for which they are noted.

Rose Crimson Bedder (H.P.).—This Rose cannot be compared with Marquise de Salisbury and some of the crimson Chinas as a bedding variety, for it is not so continuous in flowering, but, nevertheless, it is very effective in early summer. It would appear to be a seedling from the old Rose Lord Raglan. It is very like it in its flat, crumpled blossoms, and the bright red flowers are similar in colour. The growth, however, differs, for in Crimson Bedder it is moderate, and every shoot is crowned with flower-buds. As these are borne on good stiff stems, the effect is very brilliant.

Rose Princesse de Monaco (Tea).—This lovely climbing Rose was introduced by M. Dubriou, the raiser of Princesse de Sagan, Marquise de Vivens, Le Soleil, Francis Dubriou, Perle d'Or, &c. One would take it for a highly-coloured Gloire de Dijon, but its outer petals are richly shaded with chamois and salmon-rose, which gives it a most distinct character. I should not recommend it in preference to Mme. Berard or Mme. Moreau, but where plenty of space is available no one would regret adding this Rose to his col-

lection. It must not be confounded with a dwarf Tea variety, Princesse Alice de Monaco.

Rose Marie Robert (Noisette).—Pink climbing Roses of good quality are none too plentiful, and I feel sure this variety, introduced by M. Scipion Cochet in 1894, will give satisfaction. To begin with, it has an elegant bud, of good length, and prettily recurved at edges of petals like Anna Ollivier. The colour is bright rosy pink, and as the flowers expand we have in the centre the rich salmon-rose tint so much admired in Pride of Waltham. Marie Robert is very free and continuous in flowering, and a pretty coat bud can always be obtained from it. It would make an excellent standard, and as a bush, if slightly pruned, it flowers very freely.

The Dawson Rose.—One was pleased to see a favourable reference to this hybrid Rose in the valuable article on "Early-flowering Roses" in THE GARDEN of June 25 (page 533). It is, I understand, a hybrid between R. polyantha and General Jacqueminot, and partakes more of the former than the latter in its characters. Some of the dulness upon which "P." remarks seems to be due to the tendency it has to show white stripes upon its petals. It is not a very rapid grower here, but when it has assumed larger proportions I hope to be better pleased with this Rose than I have been. As it is, its early flowering and its fragrance make it valuable.—S. ARNOTT, *Carslhorn, by Dumfries, N.B.*

New climbing Polyantha Roses.—These excellent little Roses for garden decoration, covering arbours, or for pillars are coming more to the front, and there have been recently some notable additions which will probably be much grown. Thalia, a pure white form which carries large, loosely-built clusters on long, straight stems, has all the appearance of proving an excellent subject for cutting; its semi-double flowers, each a little larger over than a shilling, have the substance of petal that is needed for lasting well in water. Psyche is another novelty of much value, the flowers quite double and of the Crimson Rambler type, but the colour is a light and attractive pink. Diana is said to be a seedling from Crimson Rambler. Its flowers are very double, smaller than those of the parent, and white or very slightly tinted.—J. C. T.

Rose Louis van Houtte (H.P.).—A variety of such a glorious rich crimson colour is worth extra care in order to obtain its grandly-formed, high-centred blossoms. It has a reputation, which I think partly unfounded, of being a very bad grower. It is true it is not over-vigorous, but let anyone bud it upon strong dwarf Briers planted in rich loamy soil, and there is no deep crimson variety to surpass it. I believe it resents transplanting, and I have had the best success with it when the one-year-old plants were allowed to remain where they were budded for two or three years. After this period discard them and a fresh stock can be got ready to take their place. Many Roses of weakly growth would repay anyone to adopt this method of culture; for instance, La Fraicheur, Lady Mary Fitzwilliam, and Gustave Piganeau. All answer to this treatment, and to those who are exhibitors the extra trouble involved will not be wasted. This Rose has the powerful fragrance of La France.—P.

Rose Mme. Isaac Pereire and its sports or seedlings.—This splendid garden Rose, introduced by Margottin in 1880, appears likely to be the founder of a new race. It is evidently a hybrid Bourbon, for it possesses the grand autumnal flowering qualities of the Bourbons; but, like many of the latter tribe, it is also good in early summer. Its colour is light carmine, very pleasing in its freshness; flowers very double and slightly recurved. It is an abundant bloomer, and nearly every bud develops into a perfect flower. It is useful for massing, and altogether a fine garden Rose, but its centre detracts somewhat from its usefulness as a show variety. As a standard no Rose is so suitable, as it makes a fine large head at once showy and vigorous, and it has a sweet fragrance. Mrs. Paul is the reputed

offspring of this variety, and it appears very evident from the vigorous growth. It is, however, distinct from its parent in blossom and colour. In this grand Rose we have a peculiar form, large open flowers like a Camellia, and lovely in the rosy peach shade of colour when young, but liable to lose in freshness when fully expanded. A more recent kind from the Continent, and one that seems likely to come to the front, is Mme. Verrier Cachet. I believe it is a sport from Mme. Isaac Pereire, as it resembles it so much in growth and form of flower. The colour, however, is several shades lighter. There is a perceptible rosy salmon hue in this Rose that should make it popular.—P.

GARDEN FLORA.

PLATE 1179.

THE ZONAL PELARGONIUM.

(WITH A COLOURED PLATE OF MRS. H. CANNELL.*)

WHERE the old ideas of bedding exist in gardens, zonal Pelargoniums (Geraniums) play an important part because of their brilliancy and adaptability to almost any kind of soil. Few plants have undergone so many changes in fashion as have the varied types of this. At one time the rage was for variegated foliage, such as the tricolor, and I can remember how proud I was to possess a plant of that remarkable variety Mrs. Pollock. Huge trained plants of this and improved kinds of the type were considered skilful productions. Now one rarely meets with them as pot plants, and their richly-coloured leaves are not very frequently noted in the flower garden. Then giant specimens of the kinds valuable for their flower-trusses were a leading feature at most summer flower shows. This, too, at the present day seems to have become a lost art, judging from the poorly-grown plants mostly seen. But if the zonal Pelargonium has fallen off in these and other respects, its uses as a pot plant for the supply of bright flowers during the winter months are becoming more widely appreciated.

Although one need not be without blooms throughout the year, their exquisite range of colouring appears with extra brilliancy when all is dull outside. Improved varieties, of which the coloured plate is a good example, bear very fine trusses of well-formed individual pips. Substance in the blooms is also remarkable, and the tints of colour are vivid as well as delicate. Zonal Pelargoniums do not require any particular mixture of soils. In fact, poor soil to my thinking is better than rich combinations. The latter tend to the growth of leaves at the expense of flowers. My compost for these at all seasons is that which has done duty for other plants—Chrysanthemums and the like—and another most important item is to use comparatively small pots. When root-bound they flower most profusely.

Propagation from cuttings may be carried on at any time. I usually dibble in the cuttings among young Tomato plants at this time of the year, and later on up to August root them in the open air, using for this purpose shallow boxes. For winter blooming, spring-struck plants are preferable. These may have two shifts until the final size of pot is of 6 inches diameter. This size is quite large enough, and for later-struck batches I would use a size smaller. Good drainage and firm potting are essential. Of course, when winter bloom is the aim, flower-trusses must be constantly

* Drawn for THE GARDEN by Messrs. Cannell's nursery at Swanley by H. G. Moon. Lithographed and printed by J. L. Goffart.



picked off up to the end of August. The plants may be placed in the open, stood on tiles or boards and regularly watered. Pinch the shoots occasionally to induce a bushy growth. I also thin the leaves so as to obtain stems of a well ripened character. Excellent kinds for winter flowering are Raspail Improved (dark red), Hermine (white), Gustave Emich (light red), Beauté Poitevine (salmon). This last is the same as one now repeatedly exhibited as King of Denmark. Like the others mentioned, this is double, or rather semi-double, and therefore not liable to drop when cut. Those having single blossoms are Albion (white), Charles Mason (scarlet), Enid (rosy red), Countess of Buckingham (pink), Herrick (scarlet), Kitty (soft red), Mlle. Trine (rosy plum), Mrs. Pole Routh (salmon), Olivia (cerise), Phœna (shaded scarlet), T. W. Lawton (salmon). With winter zonals one must guard against high feeding—that is, very little in the way of stimulants is needed. They require a dry atmosphere warmed to about 55° and plenty of light.

Zonal Pelargoniums in summer like shade when in flower under glass, but they want plenty of air. Autumn-rooted plants will give



The Ivy-leaved Pelargonium as a case plant.

the best display, and, to obtain large trusses, young plants are preferred to old ones, although the latter are especially free-flowering. It is better to pinch away blossom-trusses until a good-sized plant is obtained than to let growth and bloom go on at the same time. Both are in that case unsatisfactory. Abundant supplies of moisture at the roots are needed, and in summer the Pelargonium may be stimulated with manures. Liquid made from a bag of soot in the water-tub is what I use, and when in full flower weak doses of guano in the water are given. A few very fine sorts are the following: Cassiope (salmon), Chaucer (cerise-scarlet), Delicata (light pink), Duchess of York (white), E. Bedwell (scarlet), General Wolseley (rosy red), Lord Farrer (scarlet), M. Calvat (crimson), Mrs. Gordon Linzee (salmon), Mrs. H. Cannell (salmon), Pink Domino (bright pink), Phyllis (rosy salmon), Royal Purple (deep shade), Souvenir de S. B. Miller (crimson), Trilby (shaded crimson). These are singles. Double blooms are found in Gustave Emich (scarlet), Golden Gate (orange-scarlet), Mme. Charlotte (salmon), Hermine (white), Raspail Improved (dark red).

Apart from its uses as a bedding plant or a subject for conservatory decoration in pots, the

zonal Pelargonium is most effective for filling large vases on terraces or such conspicuous spots near the house. In this instance one must have large plants to begin with, and here is excellent use for the old stumpy specimens which produced their flowers the previous year. They should be cared for throughout the winter and kept into decent shape by timely tying and the removal of straggling shoots. All the better if they have become root-bound. When planted into a free and ample space for the roots in the spring, and well attended to in the matter of water, such plants make a striking display the whole summer. The Ivy-leaved Pelargonium is yet another type well adapted for garden or greenhouse decoration. The trailing growth is best when the plants are placed in boxes or vases, as in the illustration, that it may hang down. Souvenir de Charles Turner and Rycroft Surprise are the two best sorts I have grown, the one with red flowers, the other pink.

H. S.

THE WEEK'S WORK.

FRUITS UNDER GLASS.

VINES AND VINERIES.—Those houses from which the crops have all been cut should now be freely ventilated, all the air possible being allowed to remain on both day and night. This will assist in a thorough ripening of the wood and tend to check any later growths. Keep a sharp watch for insects on all such houses now and continue to do so. Insects of no kind whatever can be tolerated any more now than earlier in the season. If it be red spider or thrips, there is a remedy at hand in water. It will not do these Vines any harm to syringe them daily during hot weather, and this alone should keep down both of these insects, but if it do not, then add sulphur to the water for the former and vaporise with XL All for the latter, two doses of which will be quite sufficient. If it be mealy bug, then take stronger measures, syringing with hot water, painting the wood, both the rods and spur growths, with a strong insecticide, and, in fact, using any means to keep this pest down. Then the process of extermination will be lessened later on. Do not now allow any superabundance of growth upon these early Vines. If some growths have been allowed to thicken, making a dense shade, then remove them gradually so that no perceptible check is given to the Vines. What should be done is to take away first the small sappy shoots, which will still continue to excite the roots if not checked. Afterwards other lateral growths can be reduced, so that the first growths from the spurs are only left where stopped the first few times beyond the bunches. My own practice is to first thin out all unripened wood and that which does not give any indication of ripening. After all of this is done, these vineries this season will need little more attention beyond watering. This latter item is all-important, more especially where the borders are entirely inside. Do not on any account allow these to become dry nor the outside ones either should there not be sufficient rainfall to effect the purpose. Vineries with the Grapes now fully ripe should be kept cool, so as to keep the fruit in good condition and free from shrivelling as long as possible. To succeed with this it is a good plan to keep down the night temperature as low as possible during the warm weather, top ventilation at night, at least in a small degree, being the rule except during rainfall, so as to avoid any excess of moisture and its precipitation upon the berries in the morning, as the temperature rises without any ventilation. If fire-heat be used, let it be during the day after the fruit is ripe, and only then when it may perchance be dull and disposed towards a humid atmosphere. Up to the completion of ripening continue to employ fire-heat if need be to keep up the tem-

peratures advised with a little ventilation. Should a large house of Grapes with a plentiful supply of fruit need to be kept over a prolonged period, it will be advisable to lightly shade the roof on the outside with whitening or with flour. The latter is used now in preference to the former, as it does not wash off so readily during the first downpour of rain. Remove it, however, immediately the fruit is all cut. Late Grapes and Muscats will, with the comparatively cool period we are now passing through, need the continuance of fire-heat. Whilst this is being written the outside temperature is 48°, and this is not by any means the lowest that has recently been recorded. On the other hand we have had sudden bursts of warmth, but not of long duration, hence it behoves those in charge of the fires to use all needful discretion, and thereby regulate the temperatures accordingly. During hot weather I never mind if the nightly readings are a little below the mark; they afford in some measure a period of rest and recuperation against the trying effects of very hot days. The latest Grapes should have some indications of colouring evident by the end of this month, otherwise there will not be time for them to thoroughly mature, not only in colour, but also in sweetness, before the days perceptibly shorten. Continue to keep all superfluous growth thinned out so that by the time colouring does commence there is not much need of any attention in this respect. Late Grapes are oftentimes disposed to grow away too strongly late in the season. This growth needs to be checked or modified by careful stopping and pinching rather than by the removal of fully developed shoots and leaves in quantity at one time. There may possibly be an occasional berry or two that needs removal, too, before any further advance is made. If so, let this have attention at once, and at the same time lightly and carefully lift the shoulders of those bunches which may have become interwoven with the berries below, then as the final process of swelling goes on the bunches can expand, causing the shoulders to rise without hindrance.

YOUNG VINES, or those planted this year, should be encouraged to make all the growth possible between now and the end of August. To attempt to grow on young Vines without fire-heat is not advisable, especially in a season like the present. In all such vineries the atmosphere should be kept moist and congenial to growth, the house being, as it were, treated similar to a stove in this respect as to closing, but with a little more ventilation during the day. Opinions differ as to the best methods of treating young Vines as regards the extension or the curtailment of the growth. I am disposed to favour extension, and so long as the roof is not unduly crowded do not practise thinning even of laterals. I have adopted the plan, and with advantage, of allowing the main rods only to be tied to the wires, all the lateral growths hanging down below the wires. By this means the new rods which are permanent receive all possible benefit, whereas it is probable some may not do so when the laterals are radiating in all directions upon the trellis at the same level. It tends thereby to the swelling up of the young rods and their earlier maturity too. Should any grower be troubled with a dropping of the young leaves on recently planted Vines, and at the extremities of the shoots in particular, with a pale brownish colour and a tendency towards a glossy appearance, it may be put down as the work of a species of spider, of which we are by no means confined to that known as the red spider. This gave me trouble once when a range was newly planted; therefore I know what a nuisance it is. At first the presence of an insect was not suspected, the leaves dropping in a mysterious manner whilst still small. But upon a close inspection it could be seen what really was the cause, the insect in question being present in sufficient numbers to account for it. Being so minute it may be passed over; in fact, when the leaves so affected were pointed out to some people they did not notice its presence. With the aid, however, of a magnifying glass it may easily be detected. The remedy

I employed was soot only, and it was most effectual. The means adopted for its application was done by putting some soot into small bags, as seed bags, tying them tightly and then sinking them in the water tanks from which the water for syringing was taken. A gallon of soot in a 100-gallon tank would last thus for weeks in an effective condition. What is needed is to extract the better qualities of the soot, not its actual colour, as some most erroneously suppose, and therefore stir the bag about for that purpose. This very minute form of spider is a most insidious pest, and one that should be stopped by the means indicated in an early stage, otherwise the leading shoots are oftentimes crippled for the rest of the season. HORTUS.

KITCHEN GARDEN.

CROPPING THE LAND.—This will now be important in this department, as much depends through the next month on the crops next winter and early spring. Of course a great deal depends upon the land and present crop, as often many shifts have to be made to forward the winter crop. At the present date there is a great scarcity of available land for these crops owing to the season being a backward one, and in many gardens one is obliged to use the land for crops that are not always the most suitable. For instance, any of the Brassicas should not follow the same family. At times it is unavoidable, and here I would advise deep digging previous to planting, and if a dressing of artificial manure can be given, so much the better. Cauliflowers may follow early Potatoes, but as the Cauliflower to be good needs ample food it is essential to manure liberally for this crop. The land now planted with Cauliflowers will be in fair condition for roots that do not need rich soil, such as Parsnips and Beets. The land if given a winter dressing of lime or burnt refuse and turned up roughly will be in condition for the root crop. Many who have cleared the land of Broad Beans, Spinach, and Turnips may plant Kales, Broccoli and Brussels Sprouts. For the last I find the Spinach quarters suitable, and in poor soil food may be given, as the Brussels Sprouts take much out of the soil if allowed to attain size and remain till next spring. Brussels Sprouts also do well after early Potatoes, and I would advise deep digging or forking in addition to the lifting of the tubers. I find Onion beds a suitable spot for the spring Cabbage. Give lime freely if at all necessary, as though the work in the garden is now so pressing, it is labour well laid out to free the ground of pests that prey upon the tender plants at a season it is impossible to give remedies. I am now clearing off the Strawberry plants that have borne fruit, burning the plants, dry litter, and weed growth that accumulated during the season and planting Broccoli. Drills are drawn at 2 feet apart. The ground is not dug, it having been heavily manured and double dug for the Strawberry crop. Coleworts do well on the borders that have been cleared of the first early Potatoes, these being planted closely. A nice open piece of land should be reserved for sowing Lettuce next month. Many sow this crop on a sheltered border. The plants often suffer more from being crowded than if given room and grown as hardy as possible. I sow this crop, winter Onions, and late Turnips in a fully exposed position to get the best results. Much the same remarks apply to late Celery; the more open the position the harder the plants.

GATHERING VEGETABLES.—Few would advise as to gathering, thinking it such a small matter, but on this point much depends, as the plants if not gone over frequently do not produce the best results. Even though the produce may not be needed at the moment, if left it spoils the growth of others, and the plant fails to produce freely. Take French Beans. These are often left on the plants much too long, as the skin hardens and soon loses flavour. The best results are obtained when the pods are gathered young and cooked whole, this allowing the plants to give better crops. Vegetable Mar-

rows are much best cut in a young state. The plants crop much better if the Marrows are gathered regularly. Cauliflowers at this time of year soon expand, and once they lose that compact build they are of poor quality. Far better cut and store in a cellar in a moist place than leave on the plants if the weather is hot. Roots of any kind growing in a shallow soil need more moisture than those in shade, so that in growing for summer use long-rooting kinds are most suitable. I have found that vegetables gathered during the hottest part of the day from light soils do not keep so well as those gathered early in the day, so that if needed to be sent long distances this is an important point. Mere size in vegetables is no criterion as to quality, and this should be borne in mind where the best are valued.

YOUNG CARROTS.—From October to April the root-store usually provides Carrots, and they are at times large and none too good as regards quality. To keep up a regular supply of small, tender roots it is well to sow this month and not store, but draw as needed. Of course in heavy, clayey, wet soils this is not an easy matter, and in such it would be well to prepare a bed with lighter materials, such as road scrapings, old refuse soil, or anything that lightens. I have found burnt refuse excellent. In cold places it would be well to sow early, but in the south, in light soil, I have obtained excellent results from sowing in August. Wireworm and slugs are very destructive, and these must be cleared previous to sowing, using lime freely, and in badly infested ground I find gas-lime the best insecticide. For use at the season named, such kinds as Model, Early Gem, or Early Nantes are excellent, and in very severe weather it is an easy matter to cover a portion of the quarter with litter, so that the roots may be lifted without damage. I sow in an open position. This sowing gives tender young roots well into April, as if lifted in March and laid in in a cool place they keep sound for some weeks. If sown fairly thick it is well to thin early, but not severely, as these roots do not attain a large size.

TURNIPS FOR WINTER.—The summer has been a good one for these. I never remember so few failures, and it now behoves us to prepare for later supplies. I am aware in the south it is full early for sowing, but not in late districts, and I find it advantageous to make two sowings, one now and another a month later, as by so doing there is no lack of tender roots. Should the autumn be warm the roots at times become large and coarse, and do not keep well; indeed, in my opinion coarse roots are not worth storing. This is my reason for sowing some three weeks later, as roots the size of a cricket ball are large enough for winter use. The land for winter Turnips needs good culture. Manure (well decayed) should not be absent, and I do not think it is well to place the food out of the reach of the roots, as in dry seasons it will support the crop at a time the roots are swelling; it also assists in rapid germination, a necessity with this crop in dry seasons. Turnips are not nearly so tender as supposed, and the roots are not injured by a few degrees of frost. For years I have not lifted till December, but have taken the precaution to mould up late in October, this preserving them till the latter date. In mild winters in well-drained soil, they may be left in their growing quarters all the winter. It may be asked why risk the crop when they may be stored in October; simply because the roots so soon deteriorate in a warm store, as they grow out badly and lose flavour. For late autumn supplies Criterion and Swan's Egg are splendid types. These do well in most soils. In land infested with insect pests I would advise a dressing of lime and soot; failing this, wood ashes and lime are a splendid fertiliser. So far I have found no Turnip superior to Red Globe for keeping. It is a very solid root, and remains sound for months. The yellow varieties should not be overlooked; indeed, such as Yellow Perfection and Golden Ball are our best winter Turnips, needing less protection and being remarkably sweet and good well into the new year.

For leaving in the soil to provide green tops, a sowing of the latter kinds or Chirk Castle is most useful. These will not need so much room as the earlier roots. These should be from 15 inches to 18 inches apart between the rows to allow of cleaning and working between. With ample room the roots are harder and keep better.

SPINACH.—There is a good demand for this during September and the following month, and to provide a good supply without unduly trenching on the winter sowing it is well to sow now. In very hot summers the seed sown now does not always germinate so readily as one might wish, but this occurs more often in poor soil. I find it well to thoroughly manure for this special autumn crop, as the return from land well done is so great that it is worth a little extra trouble to build up an autumn supply. I am now sowing on land that has been cleared of early Peas, well dressing the ground with decayed cow manure. Avoid thick sowings, or if at all thick thin freely to get strong leafage. A distance of 18 inches between the rows will be none too much, and in land troubled with wireworm give liberal dressings of soot and lime; indeed, I also give a liberal dressing of wood ashes or burnt refuse on the surface previous to sowing the seed, and in the winter when the winter crop is ready the land that has produced a late autumn supply is dug over deeply, the roots dug in, and in the spring it is in good condition for a root crop that does not need fresh manure. Land for the main winter and spring supply should now be prepared, as it is important to clear out wireworm and other pests by exposure previous to sowing early next month.

LETTUCE.—By sowing a good variety of Lettuce at this date there will be no break in the supply. A quick grower will be suitable. I find a medium-sized Lettuce the best for sowing after this date. Large sowings are not needed, far better sow every fortnight for the next two months than make one or two sowings to have a glut of material at one time. Golden Queen is a very beautiful Lettuce for early autumn supplies. I admit it is very tender and will not stand frost, but it will be used before the weather is at all cold, as it is a very quick grower and of the best quality. Tom Thumb is a small grower and very sweet. If a larger is needed the Neapolitan is good. Of Cos varieties, Sutton's Intermediate is the best small autumn Cos I have grown, and invaluable, as it is very hardy. I have had this good well into December. Hick's Hardy Cos and Bath are good, the latter for latest sowings. By sowing now and again as advised, Lettuce may be had good all through the autumn. The seedlings will now lift readily. I find they do well on the Celery trenches. Ground should be prepared for the autumn sowings, and if quantities are needed in the spring it is well to be liberal with the space. Give an open position and do not omit to use lime, soot, or other aids to dress the land, to kill slugs and wireworm previous to sowing the seeds. S. M.

Acalyphas.—Though *Acalypha Sanderiana* is the only species to claim recognition from a floral point of view, the introduction of such a startling novelty as this has directed a considerable amount of attention to the entire genus, and certainly the beauty of their foliage entitles some of them to a prominent place among this class of plants. The latest addition to ornamental leaved *Acalyphas* is *A. Godseffiana*, which, like the flowering species above mentioned, was collected in New Guinea by Micholitz. In *A. Godseffiana* the blade of the leaf is 5 inches to 6 inches long and plain green in tint, with a particularly clear cream-coloured margin, varying in width from a quarter to half an inch. In the mature foliage the extreme edge of the leaf, that is, the serrated portion, has just a suspicion of pink. It is of good free growth and its clear, fresh variegation renders it a decided acquisition. Another form in which the marking is limited to the edge of the leaf is *A. marginata*, in which the ground colour is a kind of bronzy olive with a clearly defined margin of rosy carmine. There are several other

forms, and in some of them the leaves show a curious blending of various shades and colours. This is particularly noticeable in *A. tricolor*, also known as *A. Wilkesiana* and *A. musaica*, and when well grown and coloured they are particularly useful for various decorative purposes; the fact that they are readily propagated and quickly attain an effective size being greatly in their favour. During hot summers they are very useful in the mixed beds now so popular, but if the season is wet and cold they are, as with several other subjects, quite ineffective. Most of these fine-foliaged *Acalyphas* were introduced within the dozen years following 1866, and that being just the period when this class of plants was so popular, they were soon in general cultivation. To obtain good coloured specimens they need to be treated much as *Crotons*, that is, fully exposed to a fair amount of sunshine. Red spider is sometimes apt to be troublesome, hence frequent syringing should be given to keep it in check. —T.

KITCHEN GARDEN.

AUTUMN PEAS.

IN the northern parts of the country there is less difficulty in getting a good supply of Peas in autumn; but this should not deter growers from getting a fair return in less favoured localities. Locality is not always at fault, as in many gardens the soil, being light, does not suit a late crop of Peas. For many years when there was a much smaller variety of Peas to choose from the kind mostly grown was *Ne Plus Ultra*, an excellent sort still difficult to beat. Even this fails in poor soil on gravel or on chalk. For latest supplies I have more faith in the dwarfers growers, but even then I would advise a strong growing kind. These have more rooting power and are not so readily affected by drought and mildew. It may not be necessary in gardens where autumn Peas thrive to study variety, and where this is the case the grower is fortunate. We have some very excellent kinds to select from, as of late considerable attention has been paid to the raising of dwarfers kinds with a longer pod and of better quality. Some growers fight shy of new varieties, and only recently I was told that *American Wonder* was good enough for anyone. In its day it was an advance in the right direction, but we now have kinds so much superior that no one who studies quality and quantity need grow the one referred to. I am not decrying any kind, however old, but as my object is to get the best results in the autumn much heavier crops can be secured from plants with more vigour. Those who like the very early dwarf kinds will find *Chelsea Gem* all they desire. This is much better than *American Wonder*, and what makes it so useful it is an excellent variety for present sowing in light soils if due attention is paid to the plants in their early stages. A variety which does grandly with me on poor land is *Daisy*; in fact, I consider this the best second early Pea and the best late variety, as its strong-growing haulm, dwarf compact growth, and great quantity of pods make it doubly valuable. This Pea is the result of crossing *Stratagem* with a giant Marrow, and is certainly one of the best we have yet got. *May Queen* is another of the new varieties specially fine for autumn sowing, and, like the one named above, is equally good for early supplies. The plant is dwarf. With me it rarely exceeds 2 feet and it has a full Marrow flavour, and in comparison to its height it bears a large pod. This is as early as the small round varieties, upon which I place little value. Sown in June, it will be ready early in September. I prefer to sow the

first week in July on a cool border and get a later supply. Another good autumn variety is *Early Giant*. This does not produce the quantity of pods with me which *May Queen* does, but in heavier land I saw this variety so good that I must briefly note its value. For many years I grew *Sturdy* for latest supplies, but it is now eclipsed by those noted above. In a light soil *Sturdy* is none too vigorous, and this tells against it in hot, dry seasons. In the north on heavy land *Sturdy* does well. Last year I grew *The Michaelmas Pea*, a variety I saw in splendid condition in the Royal Horticultural Society's Gardens at Chiswick a few seasons ago. In growth this is not unlike *Stratagem*, but the pods are blunter and the Peas remarkable for their green colour and excellent table quality. The *Michaelmas* grows 2 feet to 3 feet in height and is well worth room in all gardens where late Peas are valued. *Stratagem* sown now is excellent for autumn. The great difficulty I have had with tall varieties at the season named is that they mildew so badly. *Chelsonian* is also an excellent variety. This newer introduction is most prolific and with me is superior to *Ne Plus Ultra*, as it branches more freely. It attains a height of 6 feet. I am not in favour of the tall Peas when a dwarf section may be planted closer and give a heavier return. I grow the *Chelsonian* for August supplies. A variety half way between the tall and dwarf kinds of recent introduction is a new one named *Continuity*, a very fine type and bearing large pods, strong, dark green haulm, and free of mildew. During a dry autumn it made excellent progress and is rightly named *Continuity*, as it bore very heavy crops until late in the season.

Much depends on culture as to the progress the plants make during the earlier stages of their growth, and in gardens where autumn Peas fail it is well to give special attention in the way of food at the roots. In light soils on gravel or chalk failures will occur unless food is given. I have adopted various means, and one may at times give soil of a heavier nature. I do not mean clay, but a holding soil. I like the dwarf strong growers, averaging 2 feet to 3 feet, because they have less haulm. Though I have to plant closely on account of space at command being limited, by making trenches or deep drills there is a fair return. I give several inches of good rotten manure from the cow yard, and this dug into the bottom of the trench will build up and sustain the plants in dry weather. With trenches or deep drills it is an easy matter to give moisture, and in the hot weather from the end of July to September a mulch over the soil of strawy manure with a copious supply of water once a week will keep growth active. I place much importance on mulching in poor soils if the weather is hot and dry, and advise thin sowing to get a strong plant. G. WYTHES.

Pea Earliest Marrow.—Whether this variety can claim the title given it against so many of more recent introduction I cannot determine, as only a representative trial of early sorts would settle the point. However, that does not matter very much to the general reader. The above-named sort may be chosen with advantage as a companion to others of the early section, whether marrow or round. It is hardy, a very free bearer, and grows only about 3 feet high. For an early kind, the pods and Peas are of good size and of excellent flavour. This is particularly noticeable in a raw state. With me this season it is quite as early as the early rounds, which are reduced now to one small sowing, as the early marrows are hardy, equally as productive, and certainly better when cooked. I have

grown *Earliest Marrow* now for several years, and the longer the acquaintance the stronger do the claims of the variety appear. The severe winter weather experienced in March did much damage to the early Peas, but they came through the ordeal well, and their later growth left no suspicion of the disastrous frosts and gales which blackened the leaves and stems, and left them in a condition which made it doubtful whether they would repay the labour and trouble of sowing and staking.—W. S., *Rood Ashton*.

Exhibition Onions.—It is not gardeners and amateurs only who try to obtain very fine bulbs of Onions for exhibition. Seedsmen also grow them, as in these days of commercial enterprise it is needful to be up-to-date with exhibits that are not even for competition. The public judge keenly of the merits of a seedsman's produce by the examples he exhibits in public. When I recently saw a remarkably fine lot of Onion plants on a seed farm—and they were very perfect throughout, each plant being about 16 inches apart—I asked why so much trouble was taken, and the grower replied, "We must show our stocks in their finest form, and for that purpose we grow all our roots so far as possible under this high-class culture. But for our purposes there is yet another reason, and it is an important one. The finer the bulbs or roots are, the better the seed stocks and the higher average quality will they have when distributed." The public know little of the great care taken in the matter of selection to have everything of the best. There are pieces of Parsnip, Carrot, Beet, and Turnip, besides Onion, and in every case the very finest and handsomest roots that could be found are selected and planted. It is thus possible to have a very clear appreciation of the great value to those in trade of securing the finest exhibition Onions, whether grown by themselves or others. This principle of breeding stocks from the finest and most perfect samples is but identical with the practices of the florist who has been breeding for many years from the best forms and has eventually secured strains that have the highest merit. Ordinary Onion breadths look well, too, this season and seem so far to have escaped harm from the Onion maggot. The season so far has suited roots admirably.—A. D.

The flavour of vegetables.—Flavour, the most essential of all qualities in vegetables, is now out of court in the rush of giant things with fine names that come to us from the seedsmen; the true Brussels Sprout has been "improved" into an acrid ball of vile flavour. Coarse big Beans are given big names, and priced at four times the value of the old Broad Bean, though not one is better in flavour. If anyone will take the trouble to gather some young horse Beans in a field and boil them he will find them better in flavour than any of these Broad Beans. The flavour of the Broccoli sent to the London market in vast quantities is such as to make an epicure for ever give up the use internally of the Brassica tribe. In the Paris markets one can always get French or Kidney Beans of the right size and quality, but our own market has been taken possession of for some years past by a Bean which has a shell as big as that of the razor fish of our shores, and is absolutely without the true Bean flavour. Among the vegetables which perhaps ought to have most care as regards flavour above all others is the garden Turnip, but anyone who takes notice of Turnips as served on our tables will admit how ill-flavoured, acrid, and also most unwholesome they often are. Even the Swede of the field is much more delicate in flavour than most garden Turnips. We never felt this so strongly as lately after some weeks enjoying the good and distinct flavour of the white Turnip of the Paris market, a most delicate vegetable, in shape something like a sausage, and quite distinct from our own varieties. Those who have, unhappily, to rely on the markets for vegetables must take what the market growers give them, and in Covent Garden it is almost impossible to get any with a good flavour, or in a young and tender state, the object of the growers being bulk. The Peas are like

marbles, and are, we think, neither pleasant nor wholesome, so all those who have gardens should insist on quality before everything else.—*Field.*

Pea Veitch's Earliest Marrow.—It is almost superfluous to remark that Peas belonging to this type are always better flavoured than the hard round kinds, but the difficulty hitherto has been to secure a sort which combines earliness with good cropping qualities. This difficulty has, however, been overcome, as the above variety possesses both these qualities, and enables gardeners to place upon the table Peas of far superior quality than was formerly the case when the early rounds had to be entirely relied on for first crops. The above was sown here on January 25 on a warm south border, Extra Selected Early, First and Best, and Harbinger being also sown at the same time. Earliest Marrow was ready for gathering quite as soon as the two first-named sorts, and ten days earlier than Harbinger, while it is equal to all these as regards cropping. Its habit of growth is good, and reaches to a height of 4 feet. The pods, which are curved, are well filled, and the peas when cooked are of excellent quality.—A. W., *Hereford.*

NOTES AND QUESTIONS.—KITCHEN.

Turnip Swan's Egg.—This is a white Turnip, oval, as its name implies. I find these long-shaped roots have a better chance of standing heat and drought than the flat roots, or what are termed the strap-leaved section. The variety in question is not unlike the Turnips grown so largely on the Continent, though the roots are not quite so long. In poor, dry soils it is one of the best, the texture very fine and the flavour delicate. It is not a coarse root. Mine rarely exceeds in size a good Lemon, and it is much liked on that account. Having a small top it occupies but little space, and doing so well in dry seasons makes it a most valuable garden variety. It also keeps well when fully grown if stored in a cool place.—G. WYTHES.

The Swede Turnip for winter.—Very few persons cultivate the Swede in gardens for winter use. The Golden Ball is equally useful as a winter vegetable, but those who care for the Swede would do well to grow a few rows for use at the season named. There are both white and yellow varieties of Swedes. I prefer the yellow-fleshed. One I had last year on trial called Sutton's Yellow was, when cooked, of excellent flavour. The plants are short-topped, roots clean and shapely, and of excellent quality, the flesh being firm and juicy. This should be grown in all gardens, as it is not readily injured by frost. Now is a good time to sow for winter use, giving the plants an open position. A heavy soil will give the best flavoured and most shapely roots.—B. M.

Beet Crimson Ball in summer.—The Turnip-rooted Beets are useful for early supplies for summer salads, and so far I have found none superior to the Crimson Ball. This root is far superior to the Eclipse and Egyptian, as these latter are not always true to name. Few vegetables need more care in selection than Beetroot, and Crimson Ball with me comes very true, and what is so important it is a remarkably early sort. This year, owing to the weather, the roots are three weeks later, but the plants are now making up for lost time and will be ready in a few days. I find this variety excellent for a light soil. The roots, though small, are perfect in shape and of a bright rich red colour, flesh firm and of a fine flavour. Sown in the open early in April the roots will be ready in twelve weeks from time of sowing, and in poor land anyone may with advantage use this variety for autumn supplies by making two or three sowings from April to September.—G. W.

Lettuce, Hicks' Hardy.—I can bear out what "A. W." (p. 510) says respecting the merits

of this good old Lettuce, having proved its hardiness now for several years. I am told that a very similar, if not the same variety, is sent into the English markets from Italy in the winter months as perfect in growth as with us in May and June. By planting in different positions—some under sheltering walls and others in the open, a long supply is maintained. I have not tried Hicks' for frame work in winter, for the simple reason that Endive is preferred at that season, and the Paris and Superb Cos are usually the favourites for the summer, though it is doubtful whether either of these surpasses the winter kind in quality or size. I have not grown them together to prove whether the summer ones develop quicker than the hardy Lettuce under notice. I have seen the ever-popular Bath Cos destroyed in the winter by severe frost, when Hicks' remained and developed large heads. Notwithstanding this, the Bath variety still retains a high place, and will, I have no doubt, continue to do so, for growers are slow to give up old and well-proved kinds at the expense of newer ones of which they have no experience. Hicks' grows to as large a size as the Bath Cos, and has the advantage of being self-folding, when the latter needs to be tied up to become perfectly blanched.—W. S., *Wiltshire.*

Coleworts.—Being rather a large grower of Coleworts, I am pleased to see that "S. M.," in



Pear Easter Beurre.

his calendar notes for June 18, advises the growing of this excellent quick-heating Cabbage for autumn and winter use. I usually make the first sowing of seed the first week in June, and another at the latter end of the month. From these two sowings I generally have about 4000 plants set out at intervals. The first batch comes in in the autumn, after which there is an uninterrupted supply until March, when Ellam's Spring Cabbage is usually ready for use. These Coleworts succeed Potatoes, and are planted without the ground having any further preparation beyond that which it receives when lifting the crop. If the weather is dry, the roots of the plants are dipped in a puddle of clay and water, with a little soot added before planting, and then watered home afterwards. "S. M.'s" hint as to planting in drills is a good one, as it not only prevents a waste of water in a dry time, but it also saves moulding up afterwards, as all that is required is to fill in the drills. I do not grow the Hardy Green variety, but rely entirely on the Rosette or London Colewort, which always stands the winter well with me. This is a valuable Cabbage for amateurs and others having but small gardens to plant for autumn and winter supply, as the ground can be cleared quickly, and in time for it to be prepared again for spring cropping.—A. W.

ORCHARD AND FRUIT GARDEN.

PEAR EASTER BEURRE.

OPINIONS vary greatly as to the value of this very old Pear for general culture in England, and I have seen it stated that it is valueless in the northern districts. My experience is that it is indispensable where late Pears are a necessity, but that it requires high culture on a wall with a south or south-west aspect to develop good flavour and a juicy texture. Certainly when at its best, as grown in England, it is first-rate in quality, though we cannot compete for size with the huge specimens imported from California. More than twenty years ago it used to be well grown at Wynyard Park, Durham, a district which is not specially favoured in the matter of climate, and I have also met with excellent examples in Suffolk, Gloucestershire, Cornwall, Hampshire, and Bedfordshire, but have noticed in each case that all the fruits of good quality were produced by comparatively young trees, and I have not found the ordinary methods of resuscitating very old trees, by reducing fruit spurs, root-pruning, and relaying the roots in fresh soil, of much avail in altering the character of fruits produced by such trees of Easter Beurre, though with other varieties the effect has been strongly marked. Judging from this and from the character of fruits given by younger trees, the best way of dealing with this Pear would be to plant relays of cordon-grown trees on the Quince stock at intervals of a few years, and to grub out all that show signs of developing small, spotted fruits of a woody texture.

Much may be done in the matter of keeping the trees thrifty by thinning down the fruits rigorously whenever there is a heavy set, which will be probably every year favourable to Pears, as the tree is a great bearer, shortening back the fruit-spurs at pruning time and feeding well throughout dry seasons, doing everything in fact to encourage strong, healthy growth with plump and vigorous fruit-buds, and not too many of them. Good trees may be had on the free stock and also double-worked, but the tendency of the day is to plant single cordons of late Pears thickly on walls in favourable positions, and these trees will give by far the most satisfactory results where there are no difficulties in the way of obtaining them when wanted.

A good Easter Beurre should be above medium size, roundish oblong in form, green ground colour (changing to yellowish green as the fruit ripens), covered with dots of russet, and with a flush of reddish brown covering most of the sunny side of the fruits, and a small eye. The flavour is distinct and good, the flesh white, melting, and refreshing. The fruits often ripen in December and January, but may be kept in good condition till March, as they do not readily decay.

J. C. TALLACK.

Strawberry Leader.—Having grown and fruited this Strawberry along with Royal Sovereign on a south border with a view to test its earliness, I am now in a position to state that there is quite a difference of seven days between the two, as Royal Sovereign was ripe on June 17, while Leader was not ready until the 24th. Leader is a more compact grower than Royal

Sovereign; the leaf-stalks are much shorter, and it is also an excellent cropper. The individual fruits are large and fairly well coloured, but in my opinion the flavour is neither so good nor is the flesh so firm as in Royal Sovereign. According to its behaviour with me it will be a good sort to come in between the last-named variety and Sir J. Paxton, particularly in a backward season like the present one, as it would prevent any possible break occurring in the supply. Royal Sovereign, therefore, still retains its position as a first early, and will continue to do so until superseded by something better, which, I venture to think, will be some time.—A. W.

MORELLO CHERRIES.

BOTH bush and wall trees here have set wonderful crops of fruit, which is now passing through the stoning period. Judging by appearances, but a small percentage is likely to drop after stoning is completed, and should this prove to be correct the trees must have generous treatment or the fruits will otherwise be but small. Morello Cherries are so much sought after that they are never too plentiful, and I know that in my own case, although large quantities are annually grown for a private garden, the supply never exceeds the demand. It is therefore one of the most profitable outdoor fruit crops that can be grown in a private garden, and one deserving of special treatment as regards feeding and keeping the trees in a clean, healthy condition. When a heavy set is secured, one hardly likes to thin the fruits down as with the sweet varieties, neither is it necessary that it should be done if the precaution is only taken to render the trees every assistance while perfecting their fruit. If the roots are judiciously fed no ill effects follow, and the trees continue to bear year after year so long as this course of treatment is pursued. The roots of the Morello naturally feed near the surface, and if a winter mulch of half-rotten manure or horse droppings is given annually it proves of the utmost value in keeping the trees in robust health. This mulch in course of time becomes permeated with a regular network of roots, but if liquid or chemical manures are given in addition after the stoning period is safely passed magnificent fruits are the result. Even ample supplies of water alone greatly enhance the size should the weather be dry enough to warrant their free and frequent use, but the additional aid of a stimulant improves and enriches the flavour. A good manure is equal quantities of muriate of potash, bonemeal and superphosphate of lime. Strew it on the surface of the border at the rate of 2 ozs. per square yard and wash it in at once. If the border should be dry, take the precaution to moisten the soil before applying the manure, otherwise great waste will ensue.

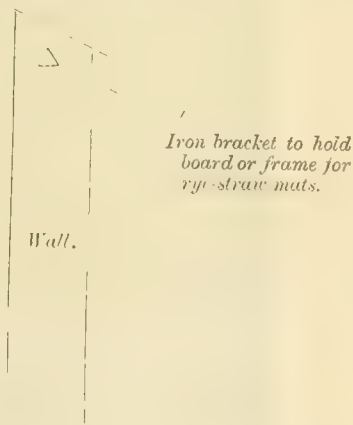
At this time of the year black aphid generally proves troublesome, much depending on the amount of attention given the trees in the way of washing or syringing them. If hosed or forcibly washed by means of a garden engine every few days these pests have small opportunity to obtain a footing, but if once allowed to settle on the points of the young shoots the aid of insecticides and the exercise of a good deal of patience become necessary before they can be subdued. Killnright, mixed and applied at full strength or 2 ozs. to the gallon, is a most excellent remedy. Soapsuds is another, and this may be applied at a temperature of 95°. In bad cases use Tobacco water with a little soft soap added, and wash frequently afterwards or until the fruit begins to colour. Another matter calling for attention, and which materially assists in the production of fine fruit,

is the stopping or pinching of the points of the young shoots on bush trees so soon as the stones or seeds are quite hard. The same remarks apply to the removal of superfluous growths on wall trees. These should be well thinned out and no more retained than will be necessary for furnishing the trees with bearing wood for another season. These young shoots should be neatly fastened back to the wall or tied to the trellis. They are then more easily kept clean than when allowed to stand straight out from the wall, to say nothing of their looking much neater. The next thing is to preserve the produce as soon as it commences to show colour, for blackbirds and thrushes—which, by the way, are more numerous than ever this season—soon make short work of them if they are left unprotected. A net, with a forked stick here and there to keep it away from the wall, with the lower edges pegged down securely to the border, is the most effectual means of preserving the fruit from these marauders. It is always a wise proceeding to well wash the trees prior to netting whether aphid is present or not, as remedial measures cannot well be adopted after the Cherries begin to colour generally. A. W.

MOVABLE COPINGS FOR WALLS.

Mons. F. JAMIN, of Bourg-la-Reine, in reply to a query of ours as to the mode of protecting Peach trees when in flower, sends us the following sketch and note:—

Most of my walls are furnished with fixed or permanent copings, but I have some walls with movable copings, an illustration of which I herewith send you.



The shanks should be fastened in the wall at exactly the same angle, so as to present a uniform inclination of about 15°, and should be set 3 feet apart, but the covering-boards are fastened to them only at points 6 feet apart. I would recommend you to make a trial in constructing one of these copings before you start to make them more extensively. A clever workman will see at once what is required to be done. I forgot to mention that this movable coping should project about 15 inches from the wall. At Montreuil the coping is most usually made with rye straw, which is economical, but not durable. In England rye straw is hardly obtainable, but wheat straw might be very well used in its stead.

Frogmore Orange Melon.—Under its first trial this variety has given great satisfaction. The plant has a very good constitution and sets its fruit freely. The fruit is handsome in form and very good in quality. This is almost all that is needed in a Melon, but it is a condition that does not always follow a new or an old variety. In varying soils and under the treatment of growers

who have methods differing one from the other, Melons of no one kind can be said to be universally reliable, and the same probably may be said of the one under notice. In my case it has not grown to a large size, nor is this needed, smaller fruits being in greater demand. The variety, however, has given such a favourable account of itself that it takes a place in the list selected for future sowing. This Melon develops into a totally different fruit from what it promises in its early stages. Then it is extremely hirsute, and would appear elongated rather than round, which it is when fully grown. It is prettily though not densely netted, of a pale golden colour. For its size it has a good depth of flesh, which is, when ripe, very melting. It belongs to the white-fleshed section.—W. S., *Wills*.

SUMMER PRUNING OF FRUIT TREES.

THE time has come when, even under the pressure of work of all kinds, wall and other trees demand some attention in the removal of the lateral growth, now so conspicuous everywhere. There is sometimes anxiety on the part of some gardeners to do such work early in the summer, so as to render the trees neater to the eye, but there is not always a gain in commencing so soon, for it invariably leads to having a second or even a third attempt before the work of the season is complete. This is not the only evil for too early a start; if the pruning is done with any attempt to a final one, the basal buds may be forced into a lateral growth this season, when, left alone a short time longer, they would probably be developing fruit-buds for future bearing. Thus two evils arise, giving additional labour this year and jeopardising next year's crop, simply from trying to make the garden and trees trim and neat too early in the summer. This year the frequent rains have given rise to a continued growth, and in some instances this is stimulated by the lightness of crops borne. Gooseberries furnish a notable example in these gardens. I have never had such a luxuriant growth as this year, or so light a crop. These have just been lightly pruned so as to render the gathering somewhat more easy, for with such a wealth of lateral growth, fruit-picking was by no means easy. Hoeing, too, can be much more easily done when there is more room, weeds this season having an agreeable time while the storms were so frequent. Currants, where the fruit is required for immediate use, can be shortened somewhat to advantage, but in too many instances there is but little time to spare for these until after the crop is cleared. For late use the extra foliage would do good by shading the fruit from the hot sun. Plums on walls always form a lot of breast-wood, and it may be said no trees more resent early pruning than the Plum; shortened early, a quick succession of laterals pushes forth immediately. Cordon or restricted Plums are greater offenders in this matter than others having more room, and it matters not so much whether the crop is light or heavy in their case. Pears do not maintain such a continuous growth as Plums. What shortening is done now will be permanent, and Apples, though they differ from Pears in the lateness of the summer growth, will not give much trouble after this date. Peaches and Nectarines need to be attended to often in the needful nailing and thinning. Where there is any suspicion of crowding, very strong shoots are better pulled out altogether, or, if there is room for nailing or tying in lateral growth, they are better stopped, and the secondary shoots laid in for next year's fruiting. It is a good rule, but one not generally carried out, to allow at least 6 inches between every bearing branch of Peach or

Nectarine. This allows the sun to reach every leaf, and growth made under such conditions cannot be other than well ripened at the end of the summer. Apricots need the same early and constant attention as Peaches; it is unwise to allow a quantity of growth to develop to be cut away at one pruning. The finger and thumb can more safely do the pruning of the Apricot, at any rate with young trees or those having a tendency to develop an unusual quantity of breast-wood. Old trees which generally carry large crops make but little work in the matter of pruning.

The free growth of Cherries, both dessert and Morello, is often useful in keeping off the nets to a distance, making it difficult for birds to reach the fruit when ripe. It is not fair to the trees to be left so long uncared for, but unless the nets are set out by some means, birds, especially thrushes, will reach the fruit. Some of the superabundant shoots can be cut out before the nets are put on. The early Cherry crop would be cleared in time to do the necessary pruning and nailing of the summer growths. Raspberries should not be overlooked even at this busy period. If the suckers are reduced sufficiently for giving the required number for bearing next year, these must be stronger and better than if left alone. Crowded Raspberries are liable to be severely crippled in the winter should this be a severe one, from the fact that the growth does not become well matured. W. S.

Wills.

NOTES AND QUESTIONS.—FRUIT.

Apple Boston Russet.—If S. Dean, Maidenhead, will let the fruit hang on the tree as long as possible, he need not be afraid of a few degrees of frost. After gathering the fruit, place it in a rather close, cold, dark room, and he will have no difficulty in having a fine sample of fruit in May.—RICHARD NISBET, Longford Cottage, Market Drayton.

Fruit at Richmond.—That very fine new Peach Thos. Rivers was shown in good form at Richmond on the 29th ult. It is, as produced on pot trees, remarkably fine, very round, brightly coloured and handsome. Without doubt on a trellis-trained tree close to the glass the fruits will be richly coloured. It is when so grown that a fair test of its table quality can be best obtained. Early Rivers Nectarine was also very fine, so, too, were Early Rivers (black) and Belle d'Orléans (white) Cherries, the latter being almost transparent. Very interesting were handsome new forced fruits of Red Astrachan Apple, and Buckingham and Wagener Apples of last year in very fair condition. A little-known late Apple, not unlike Tower of Glamis in form, Reinette Rambon de Melcher, was very firm. There were also good Czar Plums. Fruit in the collections was but moderately good, the best being capital Madresfield Court Grapes from Clandon Park, Surrey.—A. D.

Annual Strawberries.—The term annual now so commonly applied to young plantations of Strawberries, whilst well understood by gardeners, is rather misleading to the unlearned, as I have found. Practically the Strawberry, though a perennial, is, when treated as annual so-called, really a biennial. The term annual is used because the plants are planted and fruited within the twelve months, and, as a rule, are then destroyed. Still, there is nothing new in this practice but the term annual. Strawberry plants, if from early runners, have been planted and fruited within the year ever since they have been garden fruits. The novelty, what little there is in that, is found in planting relatively thick, getting a good crop of fruit the next year, then destroying the plants. Early in the century it was common practice to plant in beds and allow them to remain almost thickets for several years.—A. D.

TREES AND SHRUBS.

SPIRÆA FLAGELLIFORMIS.

WHILE the different Spiræas include among their number some of our very finest flowering shrubs, they are so numerous that in most cases a rigid selection is necessary. If restricted, however, to a dozen distinct forms, *S. flagelliformis* must have a place, as it is a very beautiful free-blooming kind and one that does not flower till many others are past. The Spiræa is in style of growth very different from most members of the genus, the principal shoots being more or less upright, while the growth is quite spreading, and the long slender shoots, which droop gracefully on all sides, are thickly studded for some distance with little flat clusters of white blossoms. When at their best, the longest shoots form veritable floral wreaths. Though so long known in gardens and nurseries as *S. flagelliformis*, it is now considered to be synony-

liberally treated is so great, that the two might be taken as belonging to distinct species. It should if possible be planted where there is ample space for the development of its somewhat spreading branches, as a great deal of the beauty of the specimen depends upon the long arching shoots being allowed to grow unfettered, for they then dispose themselves in a very graceful manner.

Philadelphus microphyllus.—The intercrossing of the few leading types of *Philadelphus*, and the great number of intermediate forms that come between them, make the genus a most difficult one to study—even among hardy trees and shrubs. But amidst all the confusion that exists, *P. microphyllus* stands out distinct. It is the smallest of the *Philadelphuses* in stature, in leaf, and flower. These characters, however, are not defects, for whilst they adapt the plant to situations to which the larger and commoner types would be unsuited, it has at the same time all that profusion and fragrance of blossom which have made



Spiræa flagelliformis.

mous with *S. canescens*, or at all events but a variety thereof. *S. canescens*, which is a native of the Himalayas, is a somewhat variable species, and therefore possesses a considerable list of synonyms; indeed, in the Kew list it has more assigned to it than any other Spiræa. Names under which it may be met with are *S. cuneifolia*, *S. flagellaris*, *S. hypericifolia*, *S. crenata*, *S. nutans*, *S. ruscifolia*, *S. nepalensis*, *S. rhamnifolia* and others. It is as a rule at its best from the end of June onwards, and in good soil where it does not suffer from drought this Spiræa will continue to bloom for a considerable time.

Like all the others, it needs to be planted in good deep soil that is not parched up at any time, for though it will hold its own and flower freely under adverse conditions, yet the contrast between a plant so situated and one more

the *Philadelphuses* such general favourites. The leaves are ovate, each about half an inch long on the flowering shoots (twice as large on the young growing shoots), of a rather greyish shade of green and covered, especially beneath, with short hairs. The pure white flowers are each about 1 inch across. The plant is a small rounded bush, 2 feet to 3 feet high, consisting of a dense thicket of slender wiry stems and abundant foliage. It is suitable for the rock garden, and being a native of Colorado, Texas, Utah, &c., is interesting as a shrub that is perfectly hardy in this country, coming from a region where very few are to be found of which so much can be said.—W. J. B.

Cistus laurifolius.—Whilst most of the *Cistuses* that were figured by Robert Sweet seventy years ago in his valuable book "*Cistineæ*" are scarcely cultivated or even known in Britain nowadays, a few species can still be counted among useful hardy shrubs. Among the "survival of

the fittest" the best is the present species. I have not had experience with it in districts more unfavourable to tender plants than the London one, but here it is perfectly hardy. Not even the early part of 1895, when the thermometer was frequently near zero, affected it in the least. During the latter part of June, and now in July, it is perhaps the showiest of hardy shrubs. Its flowers are of the purest white and each about 3 inches across. Every morning a fresh crop of them robes the plant anew. There is a rare and beautiful variety called maculatus, in which the base of each petal is marked with a large blotch of crimson. The species is evergreen and has large dark green leaves, covered with a viscid substance above and with a pale brownish felt beneath. It is a native of South-west Europe; still it ripens seed in this country in plenty. For rather dry banks that are not easy to furnish satisfactorily with tall evergreens it proves specially valuable. It will grow from 6 feet to 8 feet high, and although liable to become bare at the base through age, it can so easily be replenished or renewed by means of seed that this constitutes but a slight disadvantage.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

JULY 12.

THE remarkable display of plants, flowers, and fruit on Tuesday last must be pronounced an unqualified success. The show was well-nigh replete in every particular, and upon this occasion enhanced by the lovely display of Roses. We cannot refrain from mentioning the remarkable blooms staged by Mr. Orpen in every class. Finer or better coloured flowers have in all probability never been staged at this or any other meeting. Hardy flowers, though less numerous than at some previous meetings, were abundant, and among them a notable collection of Lilies from Messrs. Wallace, of Colchester. Sweet Peas abounded, some four groups alone of these being set up, while eating Peas, as befitted the lecture arranged for the afternoon, came also in considerable quantity. Carnations of the Malmaison section were again to the front, Mr. Martin Smith having many good things. Novelties were rather numerous, and the floral committee, before whom a large number of exhibits came, sat to a late hour. Orchids were in the minority, while Ferns in their infinite shades of green on a hot July day were also restful to the eye. In the afternoon visitors were numerous.

Fruit was very prominent, a fine collection, of which Her Majesty was the exhibitor, being staged by Mr. Owen Thomas, Cherries, Peaches, Melons, Strawberries, Tomatoes, &c., in many leading kinds being well represented. The Messrs. Veitch likewise contributed abundantly of Cherries, in pots and also gathered, as well as Strawberries.

Orchid Committee.

A silver Banksian medal and cultural commendation were awarded to Mr. H. Hicks, Bransford, Chelmsford, Essex, for a remarkable specimen of *Dendrobium Desei*, with growths each upwards of 3 feet in length. It had eleven flowering growths with thirteen expanded spikes of bloom, several others being in bud. Several of the spikes had ten flowers each. The plant had been grown in an ordinary stove for the last four years. It was undoubtedly the finest specimen we have seen. Sir Trevor Lawrence was awarded a Botanical certificate for *Oncidium albo-verrucosum*, a pretty form, in growth resembling *Odontoglossum crispum*. The flowers are produced on dense spikes, each about 2 feet in length, the sepals rich yellow, the petals yellow, with dark brown blotches at the base, the broad three-lobed lip rich yellow, with an indistinct bar of brown at the base in front of the raised white disc.

Messrs. H. Low and Co. sent a small collection of choice Orchids. The most prominent was *Cattleya Gaskelliana alba*, a lovely variety with

pure white sepals and petals of fine form and substance. The large beautifully fringed lip is white with rich orange-yellow through the throat. Another light form was also included. This had blush sepals and petals with a slight tint of rose in the centre of the lip. The plant carried three spikes of flowers with three flowers each. A good form of *C. Warscewiczii*, *Cypripedium T. W. Bond* (*Curtisi* × *hirsutissimum*), having the intermediate characteristics of both parents; and *C. Alice* (*Spicerianum* × *Stonei*), in which the dorsal sepal is white suffused with rose, slightly spotted with small purple spots, the petals greenish-yellow, spotted and suffused with deep brown, were sent. *Bulbophyllum claptense* has the dorsal sepal yellow, netted with transparent white, the lower sepals yellow at the base, shading to white at the apex, the reflexed petals yellow at the base, with a lighter apex, the lip white, shading to purple at the base. A grand form of *Odontoglossum citrosimum* and a very large form of *Dendrobium Dalhousianum* were also included. Mr. W. Bull, King's Road, Chelsea, sent *Oncidium macranthum chelseanense*, a pretty form, with darker sepals than usually seen in the type. Mr. J. W. Temple, Leywood, Tunbridge Wells, sent a large group consisting wholly of specimen plants of *Cattleya Warscewiczii* (*gigas*) remarkably well grown, the flowers being fine in substance and in various shades of colour, many of the scapes having as many as six blooms. The group was very tastefully arranged with *Asparagus* and *Ferns*. A silver Flora medal was awarded. Sir F. Wigan sent *Cattleya Warscewiczii Rothschildiana*, a pretty dark form, without the usual yellow discs in the throat. Baron Schröder sent a form of *Odontoglossum crispum* of the *O. crispum* Lehmanni type. Sir T. Lawrence showed *Vanda Miss Agnes Joaquim*, having a raceme of fifteen flowers and buds. In this the sepals are pale rose, the lower ones nearly white, the flat petals deep rose, the front of the lip deep rose, shading to purple, suffused with brown and shading to white at the base, the whole being spotted with small rich brown and purple spots, the side lobes rich purple, shading to amber at the base. The plant received a first-class certificate last year. A cultural commendation was awarded on this occasion.

Floral Committee.

The following plants obtained first-class certificates:—

ASPLENIUM ORNATUM.—This is a graceful and distinct as well as elegant plant, with dark green, shining, well-divided fronds, the elongated linear segments frequently twice and thrice divided, and, so to speak, lacerated to a considerable depth. It is an acquisition. From Mr. H. B. May, Dyson's Lane Nurseries, Edmonton.

PICEA PUNGENS GLAUCA PENDULA.—A very striking and beautiful drooping form of the Colorado Spruce, standing nearly 9 feet high, the pendent branches having an exceedingly heavy glaucous blue tone. From Messrs. Koster and Co., Hollandia Nurseries, Boskoop, Holland.

Awards of merit were given to the following:—

CARNATION NELL GWYNNE.—A pure white of the Malmaison type, the flowers not so large as usually seen, probably on account of the more natural growth. From Mr. James Douglas, Bookham, Surrey.

CARNATION MRS. MARTIN SMITH.—A large and handsome flower of the Malmaison type, in which the colour is a good clear rose-pink, a shade or so darker than in the well-known Duchess of Fife. From Mr. Martin Smith, Hayes, Kent.

CARNATION CALYPSO.—Also a Malmaison kind of the largest size, the colour a very distinct blush, shaded pink. From Mr. Martin Smith.

ROSE PERLE DES ROCHES.—An exceedingly dwarf and richly-coloured member of the Polyantha section, the colour a distinct glowing crimson-velvet. From Messrs. Wm. Paul and Son, Waltham Cross.

CARNATION SUNDRIDGE.—A very handsome self coloured scarlet kind of a rich glowing shade and very fine form. It is a border kind of rather tall habit. From Mr. F. Tapper, Sundridge Park.

ROSE EDITH TURNER.—An addition to the H.P. group, the flowers full and possessing somewhat of the recurring petals of *La France*, while the colour is of a soft and delicate blush-pink shade. From Mr. C. Turner, Slough.

SWEET PEA AURORA.—A very good and well formed flower, the standards nearly ovate and of large size, the varying shades of scarlet and orange-scarlet being waved over a light ground, the latter well-nigh hidden where the deeper shade prevails. From Mr. F. G. Foster, Havant, Hants.

SWEET PEA GOLDEN GATE.—The name here given is a misnomer, the prevailing shade of colour being shades of violet, mauve and blue. The form is good and the flowers freely borne. From Mr. F. G. Foster, Brockhampton Nurseries, Havant.

POLYANTHUM ANGULARE × *ACULEATUM*.—This, as may be imagined, has produced a very striking and remarkable form, in which the latter parent is abundantly clear. There is also much of the *P. aculeatum* type in the rough hoary character of the rachis and fronds generally, the latter being from 2½ feet to 3 feet in length. In the hardy fernery this should prove most effective. From Mr. W. Marshall, Auchinraith, Bexley.

Messrs. R. Wallace and Co., Colchester, brought a fine display of Liliiums, perhaps the most complete collection of these flowers ever seen at one exhibition, and which included some twenty-four varieties. Among the most prominent were *Roezlii*, *dalmaticum*, *Washingtonianum*, *pardalinum*, *californicum*, the lovely *Henryi*, *Parryi*, with rich golden flowers, *Browni*, *Hansoni*, *canadense*, *Szovitzianum*, *Martagon album*, *speciosum album novum*, with pure white flowers, and the lovely *Humboldtii magnificum*, with its broad segments, heavily spotted and completely recurved. Besides these there were many beautiful forms of *Thunbergianum* and *umbellatum*, together with *Calochorti* in variety and other beautiful things (bronze Banksian medal). Malmaison Carnations were again well exhibited by Mr. Martin Smith, Hayes, a large half circular group being simply a mass of the lovely flowers. Two varieties received awards on this occasion, one of them, *Mrs. Martin Smith*, being in strong force in this group; indeed, the latter was largely composed of this kind, with *Calypso*, and such as *Lady Grimston*, *The Geisha*, *Lord Welby*, *Mrs. Trelawny*, &c. The yellow border kind *Cecilia* was also in fine form (silver-gilt Banksian). Another group of Malmaisons came from Mr. Daniel Cooper, Warren Tower, Newmarket (gardener, Mr. Thos. Young). This lot was mostly of the blush and pink kinds, the plants being finely grown and well flowered throughout. A fine batch of Carnations, mostly of the Malmaison type, came also from Mr. James Douglas, Edenside, Bookham, the most prominent being *Nell Gwynne* (pure white), *Prime Minister*, *Lady Grimston*, together with such as *Mrs. James Douglas*, *Richmond* (fine white), *Elfin* (white, large flaked petal), *Trumpeter* (scarlet, very good), and others. Mr. George Reynolds, gardener to Messrs. de Rothschild, had a very striking flower called *Mrs. L. de Rothschild*, a carmine rose shade, very telling and quite distinct, the plants bold and handsome and of great vigour. The Duke of Marlborough (gardener, Mr. Whillans) showed among others a fine scarlet called *Oxford Yeoman*; the plant of this is fully 6 feet high, the colour very fine. Sweet Peas were shown in great numbers as well as variety by at least four of the leading growers, and though arranged in various parts of the hall made a fine display. In the Messrs. Cannell's lot some seventy-two varieties were staged, the colours endless, and the varieties in many instances of considerable promise (silver Banksian medal). Mr. Eckford, Wem, Salop, likewise had a very large display, this including many novelties, such as *Lady Skelmersdale*, white and purple; *Bouverie*, salmon-bronze with pink; *Lady Mary Currie*, brilliant carmine; *Mrs. Joseph Chamberlain*, white and scarlet; and *Fascinator*, purple-blue and bronze (silver Banksian medal). Mr. F. G. Foster, Brockhampton

Nursery, Havant, also had a fine lot, mostly new kinds, among which Aurora, Golden Gate, Sensation, Oriental, Modesty, delicate pink, Dolly Varden, Stella Morse, deep primrose-yellow, Colonist, soft lilac, Lady Grisel Hamilton, lavender, very pretty, were distinctly noticeable (silver Flora medal). A small group of the dwarf sorts of Cupid in pots came from Mr. N. N. Sherwood, Dunedin, Streatham Hill, the plants nicely flowered. Messrs. Veitch and Sons, Chelsea, filled a long table with annuals and biennials in very great variety, such things as *Rhodanthe* in variety, *Bartonia aurea*, the pretty *Platystemon californicum*, with its yellow blossoms; *Godetia Whitneyi*, a very showy kind with rosy-red flowers of large size; *Linarias*, many beautiful Poppies, *Marguerite Carnations*, lovely Canterbury Bells in many colours, *Venidium calenduleum*, *Lupins*, *Oxyura Douglasii* with *Marguerite*-like yellow blossoms, *Limnanthes Douglasii*, *Phacelia campanularia*, the most charming bit of blue imaginable, Cornflowers, grasses, and other things, the same firm contributing groups of *Richardia Rehmanni*, soft rose spathes, *Cytisus nigricans*, *Rubus canadensis rosea*, *Spiraea bullata* (crispifolia), and others, the whole forming a very effective and pretty group. Messrs. J. Carter and Co., High Holborn, had a fine display of choice Delphiniums, bold towering spikes being arranged in a very liberal manner along the back, while a large assortment of the choicest Sweet Peas arranged in Oriental bowls was greatly admired. These bowls were about 8 inches or 9 inches across and about 4 inches deep, the sprays of blossom being lightly arranged throughout, thus making a very pleasing display of these useful flowers, for which a silver Banksian medal was awarded.

The Ferns from Mr. H. B. May, Edmonton, on this occasion consisted of a collection of sixty-five species and varieties of *Aspleniums*, a few of the best being *ornatum*, *cicutarium*, *elegantissimum*, *Colensoi*, *divaricatum*, *laxum pumilum*, *Herbsti*, a bold, shining-leaved kind, &c., and fine flowering examples of *Exacum macranthum*, with lovely heads of the richest royal purple on plants 2½ feet high; *Swainsonia galegifolia alba*, very free and pure; and *Abutilon Golden Fleece* (silver-gilt Banksian medal). Another collection of Ferns from Messrs. E. G. Hill and Son, Edmonton, included many good kinds, such as *Asplenium Hilli*, *A. ornatum*, *A. Nidus-avis*, *Lastrea lapida*, *Davallia fijiensis elegans* and *D. f. robusta*, many beautiful warm-tinted *Adiantums*, *Nephrolepis rufescens tripinnatifida*, several *Gymnogrammas*, and others (silver Banksian medal).

A choice assortment of *Iris Kämpferi* from Messrs. Barr and Son, Covent Garden, included many good things, the majority being named sorts, though the somewhat short stems employed do not display these things to the best advantage. The collection included some thirty or forty kinds. Several handsome spikes of *Eremurus Bungei* with yellow flowers were also shown (silver Banksian medal).

Fruit Committee.

There was plenty of work for this committee. The exhibits were numerous, the fruit from the Royal Gardens being first-rate. Messrs. Veitch and Sons also staging excellent fruit trees in pots and Strawberries. Grapes, Melons and vegetables were also shown in quantity.

First-class certificates were given to—

STRAWBERRY VEITCH'S PROLIFIC, the result of crossing *Empress of India* with *British Queen*. This is a pale red wedge-shaped fruit. It is a free grower, the flavour being very fine, partaking largely of that of the *British Queen*. From Messrs. Veitch and Sons, Ltd., Chelsea.

CUCUMBER SENSATION.—This is a beautiful fruit, of perfect shape, with scarcely any neck. It is a smooth fruit and one of the most shapely Cucumbers the committee have ever had before them. The quality is very fine also. This was obtained by crossing *Matchless* with *Telegraph*. From Mr. Mortimer, Farnham, Surrey.

From the Royal Gardens, Windsor, Mr. O. Thomas sent a large collection of fruit, including

Cherries, Peaches, Strawberries and Tomatoes. The Cherries were very fine, especially *Royal Duke*, *May Duke*, *Archduke*, *Elton*, *Downton*, *Black Eagle*, *Knight's Black* and *Frogmore Bigarreau*. The fruit of *Governor Wood*, one of the best and most prolific varieties, was equally fine. Among the Peaches, *Violette Hâtive*, *Grosse Mignonne* and *Walburton Admirable* were the best, the *Elruge* and *Downton Nectarines* being well coloured. The Strawberries were very fine, a great number of varieties being staged, including *Royal Sovereign*, *Guntun Park*, *Commander*, *Queen of Denmark*, *Helène Gloede*, *James Veitch*, *Bioton Pine*, *La Grosse Sucrée*, *Edouard Lefort*, *Monarch*, *Leader* and *Latest of All* (silver-gilt Knightian medal). The same exhibitor staged new Melons and a seedling Strawberry. The Melon named *Cambrian* was not at its best. The Strawberry named *Duke of Connaught*, though good, was thought to too closely resemble others in commerce. Messrs. Veitch and Sons, Ltd., Chelsea, staged dwarf Cherry trees in pots, a very pleasing exhibit, as the trees were cropping freely, the fruits very good and clean. The best varieties were *Elton*, *May Duke*, *Bigarreau Napoleon*, *Empress Eugénie*, *Royal Duke*, *Governor Wood* and *Nouvelle Royale*. Branches of Cherries bearing very freely were shown, the varieties being *Black Heart* and *Frogmore Early Bigarreau*. Eighteen varieties of Cherries (gathered fruits) were staged, the best being *Guigne d'Annonay*, *White Heart*, *Adam's Crown*, *Belle d'Orleans*, *Mammoth*, and *Bigarreau de Schrecken*. Twenty-four varieties of Strawberries were shown, including *Leader*, *Monarch*, *Guntun Park*, *Dr. Hogg*, *Royal Sovereign*, *Lord Napier*, *Empress of India*, &c. (silver Knightian medal). Messrs. Carter and Co., Holborn, sent forty varieties of Peas. There were very fine examples of *Danby Stratagem*, *Early Morn*, *Model Telegraph*, *Model Telephone*, *Duke of Albany*, *Gradus*, *Duke of York*, and several seedlings (silver Banksian medal). Two fine stands of *Black Hamburg Grapes*, beautiful berries and grandly coloured, were sent by Mr. G. Lane, Highfield Gardens, Staines (bronze Banksian medal). Melons were shown by several exhibitors, but no awards were made. One sent by Mr. W. Coates, Gordington Gardens, Llanfairfechan, was a splendid fruit, but much past its best. Messrs. Laxton Brothers, Bedford, had a promising new Strawberry named *Fillbasket*, but not nearly ripe. *Leader* was also staged, and in fine condition, as was *Mentmore*. Mr. Bain, Burford Lodge Gardens, Dorking, sent *Peach Royal Charlotte*, very fine fruits from a tree thirty years old. The *Loganberry* was sent by Messrs. Kelway and Son, Langport; this was given an award last year. Peas of splendid quality were sent by Mr. Eckford, Wem, Salop, the best being *Wem Giant* and *Prior*; these two the committee desired to be sent to Chiswick for trial. Other kinds of a large size and good shape were *Ideal*, *Imperial*, and *Precocity*. Messrs. Cannell and Sons, Swanley, sent a nice collection of Peas, *Lord Mayor*, *Duke of Norfolk*, *Gradus*, *Talisman*, *Epicure*, *Eynsford*, and *Reliance* being very fine. Dried vegetables in variety were sent by Mr. Maries from the gardens of the Maharajah of Gwalior, India. This was an interesting exhibit, but the vegetables when soaked for cooking, especially the Cauliflower, had an unpleasant smell. Messrs. Laxton sent a fine dish of their new *Thomas Laxton Pea*, given an award of merit at Chiswick last week.

Meeting at Chiswick.

This committee met on the 5th to examine Peas, Strawberries and Lettuce. Several new Strawberries were examined, but in most cases the crops were very poor, and a fair test could not be obtained of their cropping qualities. Awards of merit were given to the following:—

STRAWBERRY REWARD.—This was a splendid fruit as regards flavour. It is not large, but of a bright colour, conical in shape. It is a mid-season fruit and stated to be an excellent cropper. The plant is a medium grower and has stout fruit-stalks. From Messrs. Laxton.

LETTUCE CRYSTAL PALACE.—An excellent Cabbage variety, leaves fringed and curled, slightly coloured at the edges. Evidently a grand summer variety.

PEA ACME.—An early 3 feet variety of very fine flavour. This Pea is the result of crossing *Stratagem* with *Veitch's Early*, and will be a valuable addition to the earliest section, the haulm being strong and the pods medium-sized.

PEA THOMAS LAXTON.—A 5-feet variety with large deep green pods tightly packed with large Peas. It is a very free bearer, the haulm being laden with pods to the soil. It is a second early with a larger pod than *Gradus* and equal in quality. From Messrs. Laxton Bros.

PEA DRUMMOND'S NEW.—A very fine variety, not unlike *Ne Plus Ultra* in colour and flavour, but dwarfier. It has a large pod and is a very free bearer.

Other Peas were examined, and in most cases they were most disappointing, having made poor growth and few pods. Evidently the soil was at fault, but we see no reason why good Peas cannot be grown at Chiswick as in previous years. Mr. Beckett, Aldenham House Gardens, Elstree, sent some splendid *Thomas Laxton Peas*. This variety received an award and is described above. Mr. Geo. Bunyard, Maidstone, sent some patent fruit sieves in two sizes (bushel and half bushel); these are round and made with strips of wood, and amply ventilated. The sieves do not bend or give in the same way as baskets, so that the fruit does not get bruised. The committee wished them to be given a trial at Chiswick this season. They are of Russian manufacture. Messrs. Bunyard use them largely and like them very much. Messrs. Laxton Bros., Bedford, exhibited a new Strawberry, *Thomas Laxton*, a very promising fruit, the result of crossing *Jas. Veitch* and *Royal Sovereign*. The fruit was not unlike that of *Jas. Veitch* and was not at its best. A fruiting plant and fruit also were sent of *Mentmore*, a variety given an award of merit last year at Chiswick. The fruit, though of splendid colour and size, lacked flavour on this occasion, doubtless owing to the cold winds.

Roses.

The special Rose show postponed from the 28th ult. to the present meeting was in every sense a success, and the blooms regarded as a whole of the finest possible quality. Competition was also exceptionally keen in the best classes, there being sometimes as many as twenty competitors. In the class for eighteen single trusses (amateurs), distinct, Mr. O. G. Orpen, Hillside, Colchester, came well to the front, his blooms possessing rare quality and finish, which with size and colouring easily carried off the chief honours. His best blooms were *Kaiserin Augusta Victoria*, *Mrs. W. J. Grant*, *Ulrich Brunner*, *Mrs. Sharman Crawford*, *Cleopatra* (a really superb flower), *Helen Keller*, *Mme. Hoste*, *Mrs. John Laing*, *La France*, and *S. M. Rodocanachi*, the rosy cerise petals of this last being delightful. Mr. T. B. Haywood, Woodhatch Lodge, Reigate (gardener, Mr. Salter), was second with capital examples of *Caroline Testout*, *La France*, *Duke of Wellington*, *A. K. Williams* (finely coloured), *S. M. Rodocanachi*, *Her Majesty* (a rather young bloom of grand size and build, showing well the fine pink shade), *Merveille de Lyon*, *Mme. G. Luizet*, *Marie Baumann*, a fine bloom of *Pride of Waltham* (a rosy peach shade), &c. Mr. C. J. Grahame, Leatherhead, was third. For eighteen single trusses (open) Messrs. D. Prior and Son, Colchester, took the first prize, having good *La France*, *Mrs. Grant*, *S. M. Rodocanachi*, *Lady Mary Fitzwilliam*, *Horace Vernet*, *Maman Cochet*, a charming flower; and *Helen Keller*. Messrs. Frank Cant and Co., Colchester, came second with *Duke of Connaught*, *Her Majesty*, *Captain Hayward*, *Duke of Edinburgh*, *Marchioness of Londonderry*, *Marquis Litta* and others, Messrs. Paul and Son, Old Nurseries, Cheshunt, being third. For twelve single trusses, distinct (amateurs), the first prize went to Mr. E. Mawley, Rosebank, Berkhamsted, the finest blooms being *Beauty of Waltham*, *Mrs. Paul*, *La*

France, Mrs. Grant, Caroline Testout, very fine; Ulrich Brunner and S. M. Rodocanachi; Mr. Alfred Tate, Downside, Leatherhead, who set up handsome flowers of Kaiserin Augusta Victoria, Duchess of Bedford, La France, S. M. Rodocanachi, &c., being second, with the Rev. A. Foster Melliar, Sproughton Rectory, Ipswich, who had good blooms of White Lady, Mrs. Grant, Her Majesty, Innocente Pirola, Francois Michelin, &c., third. The class for six single trusses, distinct (amateurs), brought a goodly lot of blooms, the leading prize being won by Mr. G. W. Cook, The Briers, North Finchley, with fine Mrs. Sharman Crawford, Earl Dufferin, Mrs. Grant, Francois Michelin, &c., Mr. F. J. Thompson, Laurels, Bounds Green, being second with Her Majesty, Kaiserin Augusta Victoria, La France, Ulrich Brunner, and others in good form. For nine single trusses of any one variety of H.P. or H.T. (amateurs) the first prize went to Mr. T. B. Haywood, Woodhatch Lodge, Reigate, for a fine lot of Mrs. Laing, the second prize being secured by Mr. C. J. Grahame, Leatherhead, who set up Mrs. Laing and an optional lot of Kaiserin Augusta Victoria, the latter variety being also used by Mr. O. G. Orpen, Hillside, Colchester, who secured the third prize. For six trusses of any one variety of H.P. or H.T. (amateurs) the first prize was obtained by Mr. G. W. Cook, North Finchley, for fine blooms of Mrs. John Laing, the same variety being staged by Mr. Alf. Tate, Leatherhead, and by Mr. E. M. Bethune, Horsham, who secured second and third prizes respectively. In this class there were no less than seventeen entries, and it says much for the popularity of Mrs. J. Laing to see it so freely used.

TEAS AND NOISETTES.—For eighteen single trusses, not less than twelve varieties or more than two trusses of any one variety, Mr. O. G. Orpen, Hillside, Colchester, was first with a magnificent set in the very pink of condition, his Caroline Kuster, Catherine Mermet, Corinna, Medea, Bridesmaid (a lovely soft salmon), Mme. Hoste, Comtesse de Nadaillac, Cleopatra, Mme. Cusin, Souv. de Elise Vardon, Maman Cochet, and Souv. de S. A. Prince being perfect models of beauty, Mr. E. M. Bethune, Deene Park, Horsham, who was second, having Medea, Caroline Kuster, Souv. de Therese Levet, Cleopatra in grand form, and an exquisite bloom of Comtesse de Nadaillac. For eighteen single trusses (open), Messrs. D. Prior and Son, Colchester, again took the leading place, having Jean Ducher, Mme. de Watteville, Corinna, Mme. Hoste, Ernest Metz, Maman Cochet, Innocente Pirola, and Comtesse de Nadaillac, the last three being of superb form, size, and finish, the second prize going to Mr. G. Prince, Oxford, who had Comtesse de Nadaillac, very rich, the centre almost full golden; Sylph, Niphotos, Maman Cochet, Souv. de S. A. Prince, and Innocente Pirola among his best. For twelve single trusses, not less than nine vars. (amateurs), the first prize went to Rev. V. H. Jackson, Stagsden Vicarage, Bedford, Ernest Metz, Mme. Hoste, Catherine Mermet, Comtesse de Nadaillac, Souv. d'un Ami, and Caroline Kuster being the best examples, the second prize going to Mr. J. T. Strange, Aldermaston, Reading. For six single trusses, not less than four varieties, Miss B. H. Langton, Raymead, Hendon, was first with Souv. de S. A. Prince, The Bride, Catherine Mermet, and Comtesse de Nadaillac as among the best; Mr. R. W. Bowyer, Haileybury College, Herts, being second with Mme. Cusin, Mme. de Watteville, Catherine Mermet, and Comtesse Nadaillac. For nine single trusses of any one variety (amateurs), Mr. O. G. Orpen, Hillside, Colchester, took the leading prize with a superb set of Souv. de S. A. Prince, Mr. C. J. Grahame being second. For six single trusses of any one variety, Mr. E. M. Bethune, Horsham, took the lead with a beautiful and uniform set of The Bride in fine condition, Rev. Foster Melliar being second with Souv. d'Elise Vardon, very fine in form and full.

GARDEN AND DECORATIVE ROSES.—Of the more freely flowered garden sorts there were several groups not for competition from leading firms,

notably those of Messrs. Paul, Cant, Turner, and others. These were all arranged in large handsome bunches, which together with the numerous buds made a fine display. The group from Mr. Chas. Turner, Slough, contained many good things, such as Alistair S. Gray, a charming soft yellow; Perle d'Or, The Pet, Narcisse, a creamy lemon shade; Laurette Messimy, a lovely salmon-peach, in the bud, very pleasing; Crimson Rambler, Maiden's Blush, Bardou Job, very dark, and many beautiful seedlings only bearing numbers (silver Flora medal). Messrs. Paul and Son, The Old Nurseries, Cheshunt, had such kinds as Rosa Mundi in the way of York and Lancaster, Carmine Pillar, Mme. P. Cochet, Gustave Regis (a nankeen-yellow), Coupe d'Hebé, Royal Scarlet (a fine colour), Alistair S. Gray, Camoens (rosy peach), Mignonette, Marquis of Salisbury (very intense shade), and Moschata alba (a large pure white), being among the most attractive in this group, which included several Spireas of herbaceous kinds, many Iris Kämpferi in large bunches, and a fine bunch of Orchis foliosa (silver Banksian medal). A very charming lot of these garden Roses came also from Mr. F. M. Campion, Colley Manor, Reigate (gardener, Mr. Joseph Pitt), including Paul's Single White, Rosa Mundi, Crimson Rambler, Bardou Job, L'Idéal, very beautiful in every way; Alice Gray, a fine white; W. A. Richardson, Moschata nivea, a fine single white; Mme. Plantier, also white, though double and very free (silver Banksian medal). Lord Penzance likewise contributed a most fascinating lot of hybrids, amply illustrating the possibilities of crossing among these free-flowering sorts, among them several rugosa hybrids, with possibly some such blood as Carmine Pillar intermixed. Others included R. pomifera crossed with Jean Cherpin, which was very beautiful. A rose-scarlet kind, also a very dark variety, with a handsome single rose-pink, not named, attracted a large amount of attention (silver Flora medal). Messrs. Frank Cant and Co. had lovely masses of Mme. Falcot, Mme. Resal, Laurette Messimy, Celine Forestier, Gustave Regis, Rainbow, Camoens, W. A. Richardson, Souvenir de Catherine Guillot, Ma Capucine, Reine Blanche, Crimson China, and several beautiful Moss kinds all disposed in handsome bunches (silver Banksian medal). The only other exhibit of Roses was an extensive one of pot plants and cut blooms from Messrs. Wm. Paul and Son, Waltham Cross. This fine lot included dwarfs and standards, the former mostly H.P.'s, the latter Teas or Hybrid Teas, &c. Among dwarfs, Mrs. Sharman Crawford, Baroness Rothschild, Alfred Colomb, Xavier Olibo, Marchioness of Londonderry, Merveille de Lyon, Mrs. J. Laing, Crimson Queen, and Capt. Hayward all carried large handsome blooms, while among the standards were splendidly flowered examples of such kinds as Empress Alexandra of Russia, a most lovely shade and everywhere admired; Bridesmaid, Corinna, Caroline Testout, Marie van Houtte, Mme. de Watteville, &c., the drooping plants and their clustering flowers forming a canopy over those below, the front being fringed with an array of boxes filled with the choicest blossoms of Tea and other beautiful kinds (silver Banksian medal).

The weather in West Herts.—During the past week the day temperatures have been changeable, the highest reading in shade on two days being only 63°, while on several others it exceeded 70°. The nights were mostly cold for the time of year, and on that preceding the 11th the thermometer exposed on the lawn fell to within 4° of the freezing point. Both at 2 feet and 1 foot deep the ground is about a degree below the July averages for these depths. No measurable quantity of rain has now fallen for nearly a fortnight, but the percolation has not yet quite ceased through either gauge. The winds, which were light, have come almost exclusively from some northerly point of the compass. The record of bright sunshine proved

poor for a summer month, averaging less than five hours a day.—E. M., *Berkhamsted*.

NOTES OF THE WEEK.

The Narrow Water Gunnera manicata.—The particulars as to the dimensions are: total width at ground from tip to tip of leaves, 36 feet; height in centre, 12 feet; number of leaves, 78, without counting a number of small ones from secondary crowns.—T. SMITH.

Lilium Hansonii.—This is one of the finest Lilies from a garden point of view where freedom of flowering with good habit and easy culture is concerned. It is specially suited to grouping with a free hand, and when associated with other things, such as dwarf shrubs on the grass or the like, is seen to better advantage.

Dianthus cæsius is perhaps the best known and possibly the commonest of the Pink tribe, yet one of the most beautiful by reason of the delicate pink blossoms that practically cover the dense cushion of leaves. It is a pretty plant, too often absent from those positions that suit it best, viz., such as are warm and dry, where it grows and blossoms with all its wonted freedom.

Hydrangea paniculata grandiflora.—The handsome plume-like panicles of this plant when gently forced render it among the most useful of shrubby plants that are suited for the decoration of the greenhouse. The plant is so easily grown by the ordinary methods, that it should find its way, even if in limited quantity, into various arrangements where bold subjects are required.

Flowers from Winchmore Hill.—I send you some flowers of seedling Heleniums, three of which I consider first-class plants, viz., H. grandiflorum var. Beauty (1½ feet), H. g. var. Golden Queen (2 feet), H. pumilum magnificum (2½ feet). This last is the finest of anything in this way. I also send H. grandiflorum (type), H. pumilum and H. Bolanderi, which runs H. pumilum very close.—AMOS PERRY.

Thalictrum tuberosum.—So very few of the members of this genus are of any value in a cut state, that the above is worthy of mention from this standpoint alone, the flowers being pure white and each about half an inch across. Associated with this is the elegant habit of the dwarf Meadow Rue, such as T. adiantifolium, &c., the compact habit of growth, which is rather under 2 feet, being all that could be desired.

Campanula punctata.—There is a distinctness about the spotted Bellflower that is not the accompaniment of every species or variety, the exceptionally long pendent white flowers—more than ordinarily attractive—being freely, though delicately spotted near the base of the corolla on the inner surface. So worthy a plant should more frequently be grown. It is well suited to the rock garden or border in good loamy soil.

A pretty combination of leaf and flower occurs in my garden. A large plant of the white-leaved Euonymus japonicus, which covers a north wall for some distance, is wreathed with sprays of Tropæolum speciosum, and the effect is charming. Close to it is a plant of Garry elliptica, over which the Tropæolum rambles equally freely, but the flowers are far less effective against this green background.—S. H. B., *Ledbury*.

Allium kansuense.—Although the Alliums are not favourite flowers, there are several species well worth growing. A pretty and distinct little Garlic has been growing here under the name of A. kansuense for several years. It grows only a few inches high, has steel-blue flowers, and increases but slowly. The flowers are drooping, and the plant is well adapted for growing in the rock garden.—S. ARNOTT, *Carsehorn, by Dumfries, N.B.*

Gloxinia Her Majesty.—This is undoubtedly the best white among these increasingly popular flowers, the large handsome blossoms, often from 4 inches to 4½ inches across, being as remarkable for their exceeding purity in all their varying stages as for the great vigour of the stems. The flowers are bold and erect, and the massive foliage drooping over the pots singularly small for the size of the plant. A large batch of this hand-

some kind is now in perfection with the Messrs. Sutton and Sons, Reading.

Buddleias.—The species *B. globosa* is very common in gardens about here, and the height of 20 feet is not at all unusual. *B. Lindleyana* occurs in several good gardens under protected verandahs, and is often 15 feet or more high, though Nicholson gives its height as 6 feet. I had a plant of *B. globosa* against a west wall in my garden at Tonbridge, in Kent. It flowered well for eight years, until a frost came, which was just too much for it and killed it to the roots.—W. THOMSON, *Bishop's Teynton, S. Devon.*

Campanula cenisia.—Among the rarer Bell-flowers this is worth a place by reason of its distinct colour as much as its equally distinct habit of growth. The species, however, is not so easily grown as some kinds, but if given a good position in the rock garden, in a narrow, though deep chink of gritty loam, it usually holds its own. A surface mulching of small stones not only stays over-rapid evaporation, but likewise prevents the plants being lifted by frost or worms—the former a great impediment to the success of many good alpine flowers.

Lupinus arboreus.—The tone of soft yellow in this well-known plant renders it exceedingly popular not only in the garden, but in a cut state, and for the combined uses named it is worthy of inclusion in any collection of hardy free-flowering plants. The plant is likewise well suited to making a sort of garden fence, and in this way even when not in flower the silvery grey tone of its foliage renders it distinct and effective. Large isolated groups, too, have a very distinct appearance, while its profuse flowering commends it to all.

Antirrhinum Yellow Prince.—Even a solitary plant of this handsome self yellow Snapdragon would suffice to portray the beauty as well as the value of such a sterling variety as this. At the same time we were not prepared recently in a hurried glance through the seed trial grounds at Reading of Messrs. Sutton and Sons to meet something like an acre or more of this fine yellow Snapdragon. In its freedom of growth and dwarfness are combined with freedom of flowering and earliness. The first flush of beauty had, however, passed, thus showing even early in July its claim to early flowering.

Campanula grandis alba is a very old and showy, if much neglected, border plant that is now in full bloom. It is scarcely possible to imagine a purer mass of colour than a large group or bed of it with dozens of the snow-white spikes about 2½ feet in height. The hardy, vigorous nature of the plant fits it for association with quite strong-growing subjects, and if at times it is apt to cover too much space this is easily remedied. The blue form is equally good in its way, and where for varying reasons the forms of *C. persicifolia* are not a success the above plant will be found a good substitute, and not so liable to fail in hot, dry seasons.

Iris Leon Tolstoi.—The "English" Irises have been very beautiful here this season, and among the dark varieties none have been so much admired as this grand one which was figured in THE GARDEN some time ago. The flowers are very large and dark blue-purple. It has looked exceedingly well, springing from a carpet of glowing orange-Californian Poppies (*Eschscholtzias*), which follow the Snowdrops which in the early year flower in the same spot. Fine as are these Irises, there is yet room for improvement from seed. Some pretty varieties have appeared here among seedlings, but none have been named.—S. ARNOTT, *Cursethorn, by Dumfries, N.B.*

Walker's hybrid Lychnis.—This hybrid between *Lychnis* or *Agrostemma coronaria* and *L. Flos-Jovis* is at present in full bloom, and is very effective with its bright scarlet flowers. *Agrostemma Walkeri*, as it is generally called, resembles to some extent both its parents, and is an acquisition to the garden. It is practically a biennial, although it occasionally survives after flowering. It produces seed, but this is not to be depended

upon to come true, and generally reverts to one or other of the parents. *A. Walkeri* was raised at Chester, and was sent out by Messrs. Dicksons of that city. Similar hybrids have appeared elsewhere.—S. ARNOTT, *Cursethorn, by Dumfries, N.B.*

The Shipka Broom (*Cytisus Frivaldskyanus*).—Under this name (which is even more unmusical than another it is known by, viz., *C. schipkaensis*) we now have in flower a Broom which promises to be a very useful addition to the group of dwarf kinds. It is a native of the Balkans, and was found only a few years since on the Shipka Pass. It first appeared in this country three or four years ago, but now it has become established it shows itself to be a better thing than was thought probable at first. It is about 1 foot high at present, and bears its flowers in an umbel or head at the end of each shoot. They are white with a yellow tinge, and the plant is quite distinct from any of the Brooms now in flower. Of the well-known older species, *C. capitatus* most resembles it. Its value is increased by flowering as late as this, when most of the Brooms are past.

Notes from Cranbrook.—*Ostrowskia magnifica* has opened one flower here for the first time. To judge from it, anything more unworthy of such a name cannot be conceived. Callas in a foot of water, where they have been for some years, are luxuriant. Little Gem in about 6 in. of water is, I think, more free-growing and satisfactory than any of them. *Iris Kämpferi* is just coming out. I think it does best just above the water-line, but I have plants in 6 inches of water which flower well and increase in size. The Water Lilies are fully a month late; sunless days and cold nights have chilled the water. *Verbascum olympicum* is a glorious sight, and the self-sown Foxgloves of all shades quite take the place of the flowers in the Rhododendron beds. The various climbing single and cluster Roses and Sweet Briers filling the hedges show how easily these necessary evils may be made beautiful.—MEDWAY.

The Mocassin Flower at Straffan.—Your note in last week's GARDEN on the Mocassin Flower (*Cypripedium spectabile*) here has one error. For fine dry clumps, read "five dry clumps," which would give the rate of increase, which is the most interesting part of the note; otherwise, readers would think that the whole twenty four plants had been imported.—FREDK. BEDFORD.

—I was pleased to see the note on this by Mr. Burbidge, and shall be pleased if Mr. Bedford will accede to his request and give us particulars of his treatment. It was not in flower when I visited Straffan, but the plants were exceedingly fine and the flower-buds gave promise of the remarkable display they have since made. What is more, they were not planted in a bog, nor had they apparently received any treatment beyond the means of those possessing a good flower border. No doubt Mr. Bedford has cared for them and catered for their wants well, but it puzzles one to account for his success under the conditions under which they grow.—S. ARNOTT.

Rhododendron (Azalea) occidentale.—Now that all the evergreen Rhododendrons and nearly all the Azaleas are over for this year, the value of this shrub becomes all the more apparent. It was at its best during the latter half of June, but is still well in bloom. It is, of course, now fully in leaf, and embowered in its luxuriant bright green foliage are its large clusters of flowers. These are mainly of a pure white, but have a blotch of pale yellow on the upper side. Not only are they beautiful to look at, but they also fill the air around with a most charming fragrance, equalling in this respect the old Rhododendron flavum (better known as Azalea pontica). The species is a native of the western side of the Rocky Mountains, and is the only Azalea in cultivation from that part of North America. It has been in cultivation for upwards of fifty years, and has lately been hybridised with the earlier varieties by Mr. Waterer, of Knap Hill, with a

view to lengthening the Azalea season. The results already achieved are very promising.

PUBLIC GARDENS.

A new park for Queensferry.—The Earl of Rosebery has presented to the inhabitants of Queensferry a large piece of land to the east of Kirkliston Road, to be used as a public recreation ground.

Public gardens and the study of botany.—A letter was received from the London County Council, stating that the Parks and Open Spaces Committee had considered the Board's letter of May 24 last, which enclosed an extract from a report from the British Embassy at Berlin, as to the arrangements in force in that city for facilitating the study of botany, and which asked the Council whether a somewhat similar arrangement could not be made in London. The County Council informed the Board that they were taking steps in this direction by forming a series of beds in Battersea, Ravenscourt, and Victoria Parks, with specimens of plants in their natural orders, and added that the Parks Committee thought that it would be desirable to see the result of this experiment before proceeding any further for the present.

Open spaces.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, W., Lord Teynham, deputy-chairman, presiding, it was reported that since the last meeting the garden which the association laid out in York Street, Walworth, and the Central Park and drinking fountain, East Ham, had been formally opened to the public. It was agreed to undertake the laying out of a disused burial ground in Hoxton, the enclosure at Portland Place, New Kent Road, and some small City churchyards, provided that proper arrangements were made in each case for maintenance. In response to the appeal of the association, a reply was received from the Rev. Harry Jones, the rector, to the effect that so far as he was able he had, in giving up a strip of the churchyard of St. Peter Cheap for the widening of Wood Street, safeguarded the existence of the fine Plane tree at the corner of Cheapside and Wood Street. It was agreed to communicate with the Corporation asking that body to take care to do nothing which would injure the roots of this unique tree.

Galvanised iron for stages.—Will someone who has used galvanised iron for stages in a stove instead of slates give some information as to durability, with damp cinders, &c., on them, and moisture continually about?—FOURMART.

Making a water tank.—Will any reader of THE GARDEN kindly inform me the best and cheapest way to make a tank about 8 feet in diameter and 3 feet deep? I am making a new kitchen garden, and require it in the centre to hold water.—W. C.

Name wanted.—Can any reader give me any information as to what plant the term "Lily of Yarrow" is applied? I have been given to understand that the plant in question is of a blue colour, highly scented, and a native of the backwoods of America.—W. S. T.

BOOKS RECEIVED.

"Les Clematites, Glycines, Aristoloches et Passiflores." Par G. Boucher et S. Mottet. Octave Doin, Paris.
"Essais Pratiques de Chimie Horticole." Par Alb. Lirbalétrier. Octave Doin.

Names of plants.—F. Allen.—Certainly not.—*D. D.*—1, *Ophrys apifera* (Bee Orchid); 2, *Andromeda barbatula*; 3, *Statice* sp.—A. D. B.—Flowers fallen to pieces; impossible to name.—G. T.—*Lilium Martagon* album.—Medway.—*Verbascum phoeniceum*.—Springhill.—*Rhynchospermum jasmoides*.—W. J. O.—1, *Spiraea cuneata*; 2, the Tamarisk.—C. L.—*Leptospermum scoparium*, a New Zealand shrub, very interesting out of doors.—F. N. G.—*Crataegus crug-gilli*.—A. D. B.—One of the forms of *Iris pallida*.

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THE MARKET GARDEN.

STRAWBERRIES IN KENT.

For the past few weeks the Strawberry season has been in full swing. Strawberries, like all other Kentish fruits, have their own favoured locality, and it is within comparatively easy distance of the metropolis that the majority are grown. In private gardens Strawberries are frequently subject to a good deal of coddling, often without the best results, but the acres of fine fruit grown in Kent under field cultivation prove that given a suitable soil and situation, with other conditions favourable, Strawberries of the finest quality can be and are produced in tons from the open fields. At the same time they demand good cultivation, and the growers who are the most liberal in matters of manure and labour usually reap the best harvest.

When recently in the neighbourhood of Swanley I noticed many fields, and amongst them a large field on a sloping hillside. Clean white straw had been carefully placed between the rows and worked round the plants for the purpose of keeping the fruit clean. On this the luscious, fresh-looking berries rested, and in the sunshine their bright colour showed up in an attractive manner. The most popular Kentish Strawberry is still Sir Joseph Paxton, no doubt on account of its bright appearance and good travelling qualities. In choosing varieties the market Strawberry grower has to consider three important points, viz., appearance, suitability for travelling and flavour. One would naturally think the last would be the first consideration, but such does not appear to be the case. The public prefers something that pleases the eye, and the large bright appearance of Sir Joseph Paxton attracts the attention of purchasers before another variety not possessing these qualities, though better in flavour. Again, Sir J. Paxton is a good traveller, which is evident from the fact that tons of Kentish fruit are put on rail near their native

fields and despatched direct to Manchester, Liverpool, Glasgow and other great centres in the north, where they arrive in a sound condition. This variety is also a sturdy grower and free cropper, two important essentials, and when we also consider the tendency of sticking to a well-tried sort like this in preference to speculating with others of recent introduction we have the chief arguments in favour of Sir Joseph Paxton as a market Strawberry. Though the variety mentioned holds its own, there are others making headway, and doubtless the foremost amongst them is Royal Sovereign. I have had frequent opportunities of obtaining the opinion of growers respecting this variety from a market point of view, and with scarcely one exception the replies have been most favourable. On many farms it is now grown largely and bids fair to become a keen competitor for premier place with the older variety. In the first place Royal Sovereign is early, and this is essential. Growers who make a point of forcing and also of picking the earliest outdoor fruit for dessert speak highly of Royal Sovereign, which is generally ripe some days before Sir J. Paxton, and as the first fruit in the market has an important bearing on the returns, this is a recommendation. Noble is another variety more or less popular among market growers, but there appears to be a diversity of opinion in regard to its qualities as a market fruit. Some growers speak highly of it and grow the variety largely, while others again complain of its woolly flavour and indifferent cropping. Other varieties are grown in less quantities, but the list is confined to the above-mentioned sorts. The Kentish Strawberry grower, however, is no bigot, and is generally ready to give any variety a trial that is likely to suit his purpose.

The advent of the Strawberry season introduces an air of activity into districts where the fruit is grown extensively, and as the majority of Kentish Strawberries are produced within comparatively easy distance of London a great many of the pickers hail from the densely-

crowded streets of the metropolis. Growers have long since learnt the importance of getting the fruit into the market early, and long before half London is awake the light spring drays piled up with round hampers of fruit picked the same morning are on their way to Covent Garden. Before the trains come in, the first consignments have been despatched by dealers to all parts of the metropolis. When the first streaks of light break over Kentish fields the pickers turn out under the supervision of a foreman, the piles of round hampers are filled with fruit, and in a few hours are on their way to the market. In districts lying further from London the fruit has to be sent by rail, and from some stations many tons of fruit are despatched during the season. Growers of a small quantity of Strawberries in private gardens have no idea of the magnitude of the traffic in this fruit, most of which is confined to Kent. The demand is always great, and prices vary according to supply. Late frosts often have disastrous effects on the Strawberry crop, but when natural conditions are favourable those who are the most liberal in matters of cultivation invariably obtain the best returns.

The period over which a plantation will continue in good bearing depends largely on the treatment, and, though three or four years is the average time under high cultivation, Strawberries will continue to bear much longer. Good clean straw is the best material for placing round the plants before the fruit ripens, and, though for the sake of economy other material is sometimes used, the result is not satisfactory, particularly in damp weather, owing to the wholesale rotting of the fruit. Most growers raise their own plants for new plantations, and, though this work cannot be done with quite the same care as is usually practised in private gardens, the importance of obtaining strong early runners and planting them in time to become established before the winter sets in has been proved over and over again, and the most successful growers are careful in paying attention to this. After picking is over there

is much to be done in the Strawberry fields. Removing the runners, cleaning the plants, cultivation between the rows, and feeding with natural and artificial manures are all included in the routine, so that next season's crop may be ensured so far as the grower is concerned.

G. H. H.

ORCHIDS.

COOL ORCHIDS IN FRAMES.

THERE are many beginners in Orchid culture that have only one house wherein to grow their plants, and naturally like to have as much variety in their small collections as possible. It is surprising what a number of species may be wintered in one house; Cattleyas and Lælias from the Brazilian forests, Odontoglossums and various others from Mexico and Guatemala, many of the West Indian Oncidiums, and a large number of Vandas, Dendrobies and Cypripediums from the Old World habitats. The list, in fact, is a very long one, and includes the majority of the showiest and most beautiful of Orchids. But in summer a large proportion of the plants would be difficult to manage successfully. The most of those named may by judicious arrangement and careful treatment still be included, but none of the truly alpine kinds from Peru and New Grenada, the Masdevallias, cool Oncidiums and Odontoglossums, will long continue in health if subjected to the temperature relished by Cattleyas and Dendrobiums. They will not withstand the same amount of sun, while if the house were sufficiently ventilated for them the atmosphere would prove too dry. But if a well built pit or even a few frames are provided, all these lovely species may be grown with the greatest ease. When different frames or compartments of a pit can be set aside for them the probability of succeeding is still greater, as such species as *Lycaste Skinneri* and others, *Maxillarias* in variety, and the grande, citrosium and others of the warmer *Odontoglossums* can be kept distinct from *Masdevallias* and *Disas*, *Restrepias* and *Odontoglossums* of the crispum set. A small or large compartment, according to the stock of plants may be set apart for *Cypripediums* of the *insigne*, *villosum* and *venustum* types, these species and their varieties doing well in summer in any fairly moist and shady frame.

When the ordinary wooden box frame is to be used, something should be done to prevent slugs and snails entering. A layer of sharp ashes and soot is a preventive to some extent, and if it can be managed a better way is to stand the frames on a zinc or stone tray holding an inch or so of water. Or these may be made to fit the inside of the frame and the plants be staged thereon. These or other methods that will occur to anyone interested may be supplemented by careful watching at night with a lantern, or trapping in Lettuce leaves or scooped-out Potatoes, and one of the most troublesome details will be overcome. If the plants can be placed in a shady part of the garden all the better; the position will be naturally cooler and less shading will be necessary. The amount necessary will, of course, depend on the species grown, but the greater number of cool-house kinds like plenty of shade during the summer. In all other details the culture of the plants is precisely the same as for others grown in the usual cool house; ventilation and watering, cleaning and attention to atmospheric moisture all needing care.

Regarding the season that they may be moved to the frames, it is good policy to get them out

as early as possible after the middle of April. Sometimes it is very cold at night just at this time, frosts and cold winds being the rule, and in this case the plants will be safer in the house a little longer. When taken out, covering the glass at night will be necessary, at least until the middle of June in ordinary seasons. The reason for taking them out early is that the other occupants of the house can afterwards be properly treated as to temperature. They may remain in the frame until September at least, and in some seasons it is quite safe to leave them out as late as October and early November. When taken back to the house they should be arranged in the coolest part.

Masdevallia Peristeria.—This handsome species varies a good deal in size, a flower of a good form of it, measuring about 5 inches across, being now open. The striking part of the flower is the centre, where lip and sepals form a resemblance to those of the Dove Orchid, hence the specific name. The flower is greenish externally, the centre purplish-brown, owing to the number of small hair-like processes upon it. It is a native of various parts of New Grenada, and was introduced in 1873.

Chysis lævis.—The flowers of this species, each upwards of 2 inches across, are produced in racemes of about a dozen flowers on the strongest plants. The ground colour is a brownish yellow, the lip prettily spotted with red. It may be grown either in the Cattleya house or the East India house, an important point being to get the growth well ripened in autumn, as it will not bloom satisfactorily unless the old pseudo-bulbs are well hardened. The foliage at first is soft and is always liable to insect attacks, red spider being especially partial to it. A sound compost of equal parts loam fibre, peat, and Sphagnum Moss suits the stronger plants well. Water must be freely given at the roots as long as the growth is active, a greatly lessened supply being necessary while the plants are at rest during winter.

Oncidium Harrisonianum.—It is strange that this beautiful little species is not more often met with, as it is so distinct and pretty. The peculiar glaucous-grey tint of the foliage and bulbs distinguishes it from all others, and the panicle inflorescence is unlike that of the majority of *Oncidiums*. The colour is yellow, spotted with red on the sepals and petals, and a fine crest on the lip. On account of its small tufted habit a large pot is unnecessary, but I like pans or pots better than blocks or baskets. The small pans pierced at the sides are excellent for it, the roots obtaining abundance of air through these holes, an important point with epiphytal plants. Grown in an ordinary description of compost the plants do well, and flower annually in a house such as suits *Sophranitis* or any of the grande section of *Odontoglossum*. They like plenty of light, and will stand more sun than cool Orchids generally. It comes from various parts of Brazil, and first flowered in this country in 1832.—H.

Vanda Denisoniana.—The pure white flowers of this beautiful *Vanda* are always attractive, and it is only too little grown. The lip is singularly formed and has a narrow front lobe and erect side lobes, the blossoms appearing about a dozen or so upon a spike. Like many of the smaller-growing *Vandas*, it dislikes a great body of heavy material about the roots, and is, in fact, well treated if potted or basketed like *V. cerulea*. In quite small receptacles nice specimens, carrying several flower spikes, may be grown, and they are splendid for grouping or the spikes are fine for cutting. The compost may be the usual Sphagnum and charcoal as advised for distichous-leaved kinds generally, the drainage and other material being scrupulously clean. It delights in warmth and a very moist atmosphere while making its growth, this latter being provided by frequently damping down the stages and floors rather than by overhead syringing. Occasional light dewings are

helpful, especially during the afternoon of hot summer days, but regular syringings are not advisable. *V. Denisoniana* grows naturally on the Arracan Mountains, where it was discovered by Colonel Benson about 1868.

MASDEVALLIA CAUDATA HYBRIDS.

This section is suitable for basket or pan culture, as they certainly thrive more satisfactorily when suspended near the roof glass. They are a distinct, desirable, and easily cultivated class of hybrids, requiring through the warm months of the year similar treatment as regards temperature and moisture as the cool section of *Masdevallias*. During the winter it is not desirable to allow them to have a temperature less than 50°, or they are liable to get spotted. The best time to repot these is about the end of August, using fibrous peat and living Sphagnum, two parts of the former to one of the latter, pressing the compost moderately firm about the roots and base of the plants.

M. SHUTTRYANA (*M. caudata* × *M. Harryana*).—This is one of the prettiest hybrids of this section, the flowers produced on scapes about a foot in length. The flower has the triangular characteristics of *M. caudata*, enlarged and flattened by the influence of the stronger growing parent. The colour is bright rose, slightly veined and suffused at the base with a darker shade of colour; the tail nearly 3 inches in length, bright yellow; the miniature lip rose with a blotch of purple on the apex, the side lobes white. It is a lovely free-flowering variety of good constitution and worthy of every consideration. It was raised in Sir T. Lawrence's collection.

M. CHAMBERLAINIANA was raised in the Highbury collection from the same parents. It is superior in many respects, being brighter in colour and altogether larger.

M. COURTAULDIANA (*M. caudata* × *M. rosea*).—Although not possessing the robust constitution of the last named variety, this is a distinct and lovely form, having the intermediate characteristics of both parents both in growth and shape of the flowers. The interior of the lower sepals is blush-white with several prominent rose lines, the upper sepal half yellow with several bright purple lines, the tails greenish yellow, the lip white with purple blotch in front, the exterior yellow, spotted and suffused with rose-pink. It was raised in the nurseries of Messrs. F. Sander and Co.

M. CAUDATA ESTRADÆ.—This, raised from the species indicated in the name by Mr. Seden in Messrs. Veitch and Sons' nurseries, is a dwarf-growing and free-flowering hybrid, with the intermediate characteristics of both parents. In shape it takes after *M. caudata*, with the bright colouring of *M. Estradæ*. The lower sepals are white, suffused from the centre downwards with bright rose-purple, the upper sepal creamy yellow lined and suffused with bright purple, the lip white, spotted with distinct rose, the side lobes white, the tails of the sepals bright golden yellow.

M. GELENGANA (*M. caudata* × *M. xanthina*).—This hybrid has the dwarf characteristics of *Masdevallia xanthina* and is best suited by a position near the roof glass. The lower sepals are creamy yellow, thickly covered with rich purple spots, the upper sepals yellow, lined and suffused with brown-purple miniature spots. The tails are bright yellow, the lip rose, spotted with purple. It is a most distinct and desirable variety, free flowering, and has a good constitution.

M. POURBAIXI (*M. Veitchi* × *M. caudata*).—The sepals are bright yellow, spotted and veined with dark purple, the tails rich purple, the lip yellow, suffused with purple, and a rich purple blotch on the disc. It is a distinct and desirable hybrid, worthy of every consideration.

M. KIMBALLIANA, raised from the same parentage as *M. Pourbaixi*, was introduced through Messrs. F. Sander and Co., St. Albans. It differs

slightly in colour from the last-mentioned hybrid, but the general characteristics are very similar.

M. HENRIETTE (*M. ignea* *erubescens* × *M. caudata*).—This is a pretty form, somewhat resembling *M. Shutteriana*, but having more orange and tracings of the purple lines as seen in *M. ignea*, is very distinct. It has the triangular characteristics of *M. Shuttleworthi*, and is about intermediate between the two species both in habit of growth and in the flowers. It was raised in Mr. Ames's collection in America.

STELIS.

CATTLEYA WARNERI.

THIS species is less variable than many others of the labiata set, but where a fair number of plants are grown there will be considerable difference in the flowers. Both in its manner of flowering and the shape of the blossoms it comes nearer to the true *Cattleya labiata* than any of the others, and its culture is in some respects similar. The growth starts in spring, the flower-spikes being produced upon it at once, the flowering season being extended over a longer or shorter period according to the number of plants grown. *C. Warneri* cannot be described as a difficult plant to cultivate; indeed, when healthy and well established the growths come away with considerable freedom, but it is a plant that it is wise to keep in health when it is so, for it is not easy to bring it back when it gets badly shrivelled or spotted. Occasionally *C. Warneri* is found difficult to flower freely, and as often as not this is the result of keeping the plants too much shaded. The most free-flowering plants are those grown in baskets suspended not far from the roof glass, but this is not always convenient, and in a light position they will do well in pots. If the basket treatment is practised, let them be large enough to take the plants comfortably and allow of root extension. The same with pots, the roots disliking a large pot, while they must not be too much pinched.

The present is a good time to repot or rebasket any plants that have flowered, taking them in hand directly the blossoms are past, as by this means the emission of roots which takes place now will help to establish them in the new material. The same with plants that for any reason have missed flowering. Very late blooming plants may with advantage be left over until spring if not badly in need of new material. I have repotted *C. Warneri* as late as September, but possibly at this date no great advantage over spring potting accrues. If the plants keep well to their seasons the cultural routine otherwise is much the same as for *C. Gaskelliana* and *C. labiata*. In the best forms of *C. Warneri* the flowers are each upwards of 7 inches across, the sepals and petals a pretty bright rose with a suffusion of purple, the lip usually of a deeper tint with a very deep amethyst purple blotch in front; the throat yellow with lines of rosy purple. Its variety *imperialis* is a splendid *Cattleya*, and there are others which might be named. The first time it flowered in England was with Mr. Warner, of Chelmsford, to whom it is dedicated.—H. R.

Lælia crispa.—I have just flowered a lovely form of this old Orchid, quite a superior thing to the usual varieties. The flower is as large as that of a good *L. purpurata*, the characteristic fringed lip being very beautiful. It has the front portion of the richest crimson-purple imaginable, shown up well by the golden yellow tint on the inside of the lateral lobes. The intensity of the colouring is remarkable, and should it prove constant it will be a splendid variety. The plant is a fine one, and was purchased as an unflowered specimen. Even the old forms of *L. crispa* are well worth growing for their brightness and free-flowering nature, and it is one of those useful old species that are not thought sufficiently of now-a-days. Culturally, its requirements are much the same as those of *L. purpurata*, and the stronger it can be grown the better. The usual *Cattleya* house tempera-

ture suits it admirably, and being very strong rooting the compost in every case must be very rough and open over good drainage. It is well if possible to keep it at rest after flowering, but this is not always easy, and, rather than force it to rest, it is better to let the plants have their own way. Some will be found to keep naturally to their proper season, while others will not. A free supply of moisture is necessary while growing and until the flowers are past and the pseudo-bulbs complete, rather less sufficing in winter.—H. R.

Oncidium Lanceanum.—Very beautiful now are the flowers of this *Oncidium*, the deep chocolate-brown markings on the yellowish green ground and the various tints of rose upon the labellum making an unusual and very taking combination of colour. It belongs to the section of the genus without any pseudo-bulbs, the plants consisting of large deep green, purple spotted leaves. The flower-scapes appear in early summer at the base of the newly-formed leaves, and bear few or many flowers according to the strength of the plant. The worst mistake in growing *O. Lanceanum* is to be always pulling it about at the roots, for it dislikes disturbance more than any other species. When preparing the compost for this plant I always use a good proportion of Sphagnum Moss and only a very little peat, as the former is not so liable to sour, and when decaying may be more easily and with less damage removed. A large plant now in flower with me has not been disturbed since it was first planted—a newly-imported piece about six years ago. The growth is free, and it never fails to flower well annually. *O. Lanceanum* likes a high temperature always and ample moisture both at the roots and in the atmosphere while growing. During the autumn the air may be kept a little drier with advantage, this having the effect of well ripening up the leaves. The plants bear almost full exposure to the sun in autumn with advantage. During the winter months the roots may be kept well on the dry side, the fleshy leaves acting in some part as pseudo-bulbs, and keeping the plants going during the winter.—H.

FLOWER GARDEN.

IRIS HEXAGONA.

MR. LEY, in his interesting article of June 18, p. 519, notes that this species is not quite hardy in England. This complaint seems common among the English fanciers of the Iris. Irises often have certain vagaries, and one hesitates to diagnose cause of failure to grow or to advance trustworthy cultural directions, but I venture the guess that the failure of *I. hexagona* in the open in England is probably due to plants having been obtained from the wrong localities, for I have in the garden plants which are as hardy as any Irises. The owner of a garden is apt to think his climate the worst in the world, but in our latitude the constantly varying winter temperature, sometimes 15° F., is very trying to plants, as much so probably as in any English location. My experience is that northern forms of *I. hexagona* are as hardy as *I. sibirica*, and southern forms quite tender. This species occurs in the middle west, as far north at least as Missouri, and in the south as far east as Florida. The forms vary little except in colouring and size of flowers, but the constitution seems to be affected by the habitat. The white form spoken of by Mr. Ley is evidently a sport, as seedlings revert to blue colouring. Blue forms vary from faint blue to the rich colouring of that known as var. *La Mance*. The veinings or markings on the lighter-coloured flowers are more extended and prominent than on the darker forms. The rhizomes of *I. hexagona* are strong, vigorous, and not easily turned aside: they have here

penetrated so densely-growing a thing as the roots of *Panicum virgatum*. Aside from open root-room, they require no other care than that given German hybrids, but I would suggest that owing to their flowering habit they be not allowed to become crowded. The leafy blooming stems are shorter than the leaves and are partly prostrate at flowering time, so that unless the plants are grown thinly the flowers are partly hidden, and the plants not so effective in the border. J. N. GERARD.

Elizabeth, New Jersey.

LILIUM SPECIOSUM IN BLOOM.

THE different varieties of *L. speciosum* flower naturally in the open ground during the latter part of August and onwards, and at one time they were considered difficult to force prematurely into bloom. Such is, however, not the case now, and those that make a speciality of flowering *L. speciosum* have plenty of blooms by the end of June. Though enormous numbers of bulbs reach this country from Japan, for early flowering those from Holland are preferred, for as a rule they can be obtained earlier, and consequently have a good start over the others, added to which the Dutch bulbs seem to lend themselves better to culture under glass. For early flowering the bulbs must be potted as soon as possible, and in doing this space should be left at the top for a good dressing later on. Though the market grower attains wonderful results in a 4½-inch pot, yet in a general way 6 inch pots are the most convenient for these Lilies, unless a large mass or clump is desired, when of course several bulbs must be put into a large pot. When potted in the autumn they may be placed in a cold frame, the object of doing so being to ward off any very heavy rains which are often experienced about that period. They should be protected from frost either by covering or removing them indoors, and in any case as the shoots make their appearance above ground the plants must be taken into a greenhouse and a good light position assigned them. This latter is very essential, even if a little more heat later on becomes necessary, for if shaded or too much crowded together the stems of this Lily quickly elongate. As the pots get full of roots occasional doses of liquid manure are of service.

As above stated, the varieties from Holland are by most growers preferred to those from Japan for very early flowering, and among other features these Dutch forms are not so liable to turn yellow and die off when growing as the Japanese occasionally do. As this disease, whatever it is, prevails extensively among imported *Lilium auratum*, it may be that in the case of *L. speciosum* it is contracted by associating with bulbs of *L. auratum*, as the two are often sent in one consignment. The varieties preferred for early flowering are *roseum* or *rubrum*—for the two names are used so indiscriminately that it is useless to separate them—and *album*, a very desirable kind. This last differs from the Japanese *Kratzeri* (which is often sold as *album*) in many well-marked particulars. The variety *Kratzeri* has, generally speaking, a yellowish coloured bulb, rather pale green leaves, with the stem and leaf-stalks of much the same colour. In the flower the segments reflex in a very regular manner. They are white, with the exception of a greenish stripe which occupies the basal half of the middle of each segment. The buds, too, are green. The *album* of the Dutch cultivators is totally distinct therefrom, the bulbs being of a deep mahogany colour, deeper, indeed, than those of any other variety, while the stem, leaf-stalks, and unopened buds are all heavily tinged with chocolate. The exterior of the flower, too, is of the same hue. In the inside the expanded blossom is of a clear soft white without the green tinge of *Kratzeri*. The only approach to colouring is that in some individuals after the flowers have been open a few days they become slightly suffused with blush. Like most other Lilies, these varieties of *L. speciosum* when grown under glass are somewhat liable to the attacks of

aphides, but nothing like to the same extent as the forms of *L. longiflorum*, notably *Harrisi*. In any case fumigation or dipping in some of the various insecticides will soon rid them of the pest. This must be done as soon as the aphides are noticed, for they increase very rapidly, and permanently injure the buds while they are still small. T.

LILIUM TESTACEUM.

THOUGH opinions may differ as to the comparative merits of the many beautiful Lilies that we have now in our gardens, this is certainly entitled to a foremost place, while it is one of the most distinct of the entire genus. It has been many times noted in *THE GARDEN*, but is so charming just now when in full bloom as to well merit a passing notice. We have very few hybrid Lilies in general cultivation, but this is one of them, the parents being the Madonna Lily (*L. candidum*) and the scarlet Turk's-cap (*L. chalcedonicum*), the prominent characteristics of the two being blended in the progeny. The segments of this Lily are a good deal reflexed, nearly as much as in the Turk's-cap section, while they are borne in a somewhat open head, each blossom being disposed horizontally or nearly so. The colour of the flower is a peculiar yet remarkably pleasing shade of nankeen or buff, against which the bright red anthers stand out very conspicuously. The blossoms of this Lily, which are pleasantly scented, are a little later in expanding than those of *L. candidum*, while *L. chalcedonicum* is later still. *L. testaceum* is occasionally met with under the names of *Isabellinum* and *excelsum*. This latter name is by no means an inappropriate one, for though the height varies according to situation and other particulars, yet when well established and under favourable conditions it will run up from 6 feet to 7 feet. These tall stems, though sufficiently stout to carry the large head of blossoms, are not at all stiff, swaying as they do with a gentle breeze. As a rule, the foliage is well retained till the flowering period is over. The flowers being borne in a horizontal manner are seen to better advantage on tall stems than short. The bulb is a good deal in the way of *L. candidum*, but it does not push up radical leaves in the autumn as the white Lily does. With the exception of this last it is, however, the earliest Lily to start into growth in the spring, and though so early and the young foliage so tender, it seems proof against cold and cutting winds. *L. testaceum*, which is finely grown by some of the Dutch cultivators, succeeds in a good garden soil that is well drained, and at the same time is not dried up during the summer months. It can be depended upon to flower well the first season after planting, and is very satisfactory when grown in pots. GROWER.

LILIUM BROWNI AND L. ODORUM.

It is rather surprising that such a state of confusion prevails with regard to these two distinct Lilies, for they are readily distinguished from each other by many well-marked features. In this country we, as a rule, obtain our stock of *L. Browni* from Holland, and of *L. odorum* from Japan. This latter is often sold in London auction rooms as *L. Browni*, and this is doubtless the cause of the confusion that exists, though as soon as the leaves develop the difference can be readily detected. The bulbs of *L. Browni* are quite distinct from those of any other Lily, being narrow at the base and gradually widening upwards, with a peculiarly flattened top. They are more or less tinged with reddish brown. The leaves are long, narrow, and tapering to a sharp point. They are also of a dark green tint. The stem, which is, particularly towards the lower part, tinged with purple, is at the base almost destitute of leaves for some little distance. The flowers are large, funnel-shaped, and of an unusually thick wax-like texture; inside they are of an ivory-white tint, but heavily tinged with chocolate on the exterior of the three outer segments, so that the unopened bud is entirely of a reddish brown hue. The dark brown anthers are

very conspicuous against the rest of the flower, but in showery weather the pollen is quickly washed on to the petals and mars the beauty thereof.

In *L. odorum* the base of the bulb is broad, while the centre is slightly raised, and the colour is yellowish, as in *L. longiflorum*. As soon as they appear above ground it will be seen that the shoots of *L. odorum* are green, while those of *L. Browni* are reddish brown. The leaves of *L. odorum* are short, broad, rounded at the tip, thin in texture, and of a pale green. The flowers, too, differ from those of *Browni* in being rather more shallow and with less brown on the exterior, while when first opened they have a slight creamy tint. They are also more agreeably scented, for *L. Browni* after being opened a day or two is far less pleasant than at first. *L. odorum* is sometimes known as *L. japonicum Colchesteri*. Some newer forms of this section of Lilies have flowered within the last few years at Kew, and though, perhaps, some of them may show a leaning towards one or other of the above-named species, the fact remains that *L. Browni* as grown by the Dutch and *L. odorum* from Japan are two perfectly distinct Lilies. H. P.

IRIS KÆMPFERI AT WISLEY.

THE thousands of plants growing in Mr. Wilson's Wisley garden have this season produced countless numbers of blooms, which, as regards brilliancy, purity, form, and size, leave nothing to be desired. This noble Iris, which in its true form is without an equal for the summer decoration of the outdoor garden, is, like many hardy cultivated flowers, liable to be affected by the vicissitudes of our changeable climate. It is noteworthy that Japanese plants, though generally insensible to periods of severe frost, seem unable to stand without suffering the cold easterly winds which frequently prevail with us in early spring, and many of them are extremely sensitive to the action of late spring frosts. The difficulties attending the culture of this Japanese Iris in English gardens are accentuated by the fact that it demands a never-failing supply of moisture at the roots, and must at the same time have full exposure to the sun, with a free circulation of air. With its heels in a bog and its head in the full blaze of the sun *Iris Kämpferi* is quite happy. Just when the plants are coming into flower, the soil should be at saturation point, and this is where failures are so apt to occur, as the month of June is frequently very dry and parching. By setting this Iris in beds of prepared soil, so that the plants may receive all necessary attention to guard them against checks, it is, of course, possible to ensure a certain amount of success; but this is not the way practised at Wisley, neither is it the way calculated to display the characteristics of this gorgeous hardy flower. The common yellow Iris of our streams and rivers loses half its beauty when transplanted from its surroundings. Deprived of the association of the grasses, Reeds, Sedges, and other waterside plants which keep it company in a natural state, its characteristic features are in a great measure lost. One may say as much of *Iris Kämpferi*, which is as much a waterside plant as our own native species. However well it may be grown in the ordinary border, its beauty cannot so well be realised as when it is placed near the water and associated with things with which it harmonises. In one place this Iris fringes a piece of water which is tenanted by Cape Pondweed, the newer Water Lilies, and other water plants and waterside things. On the banks the natural vegetation is allowed to push up, only very coarse things being kept down. The hoe and the fork do not go near them. Wild grasses come up and touch the blooms, and native plants of lowly growth can ramble at will. It is a pretty picture, with trees in the background, big white, yellow, and pink Lily blooms resting on the water, giant Gunneras and other things on the other side, with a glimpse of yellow Lilies on the rising ground, and the many-hued Iris flowers fringing the bank. It is,

perhaps, as natural an arrangement as it is possible to effect by artificial means. In other places this Iris occupies in the form of large clumps the border of miniature lakes, and in all cases bearing blooms of such quality as to prove that the plants are quite at home. In a more elevated portion of the garden, and where the natural herbage has been allowed to cover the soil, a deep ditch has been made, which, running in serpentine fashion, traverses the meadow from one corner to the other. The excavated earth forms banks, on which among the native growth are established such things as Tree Lupines, Day Lilies, and *Iris sibirica*, the last coming into flower and making a display before its more gorgeous relative comes into bloom. Through the whole length of this miniature valley Kämpfer's Iris is blooming and looking happy, many of the plants now in flower being produced by simply sowing the seeds in the damp bottom and allowing them to come on without disturbance. On the level ground one sees irregularly distributed the blooms just topping the grass, the effect of which is very pleasing and so natural that one could almost fancy that this Iris belongs to the native flora of the locality. J. C.

Byfleet.

Polygonum sachalinense.—Several kinds of *Polygonums* are ornamental. I find it best to grow them in a somewhat sheltered spot to shield them from the late spring frost, as they begin to grow early. Recently, when at Dillington Park, I observed several big masses of the variety above named. They were at home at the edge of a shrubbery border, with various-coloured *Rhododendrons* growing near them. These were in bloom, and made a good set-off to the large strong shoots of this, which were from 10 feet to 12 feet high. I saw this growing well in a sheltered spot at Longleat some years ago.—DORSET.

Tufted Pansy Christiana.—Although this excellent tufted sort was not recognised by the floral committee at the meeting at Chiswick, it is undoubtedly deserving of a position in the front rank. It is very free-flowering. The blooms are produced on long footstalks, which enable the flowers to stand out well above the foliage, while its habit is an ideal one. The blossoms are oval in shape, of a creamy white colour, with a yellow suffusion running from the eye into the lower petal. It is also a most continuous blossoming sort.—A. H.

Lilium giganteum at Wisley.—*Lilium giganteum* has been very fine at Wisley this year. It is grown in sheltered situations among trees and evergreens, and has thrown up flower-stems nearly 10 feet high. Every leaf seems to be in perfect condition, fresh and green, untouched by snails, and not in any way affected by the weather. When this Lily can be managed in this way it is one of the finest of Nature's productions. It is of noble growth, and yet neither flowers nor foliage exhibit any signs of coarseness.—J. C. B.

Tufted Pansy White Empress.—This is indeed a handsome flower, being of large proportions and freely produced. I cannot, however, agree with a recent correspondent that this variety is one of the whitest flowers in cultivation. It may be described as a pale creamy white, with a neat yellow eye and rayless, but there are several sorts many degrees whiter than this. All the same, growers of these flowers should make a note of this variety, as, although it has a vigorous habit, yet it is tufted. The flower-stalks are rather short.—C. A. H.

Tufted Pansy Magie.—As there is a dearth of really good rose-coloured flowers among the Tufted Pansies, this variety should make a welcome addition. It is now beautiful, its numerous growths literally covered with blossoms of large size and good form. It is the best thing in this way that has been introduced for a long time, and those on the look-out for a first-class sort would be well advised to secure this novelty. The flowers open a deep rose, but as they age the colour pales off into a soft clear rose. It is the best rose-coloured flower that I know.—D.

SAXIFRAGA LONGIFOLIA AND OTHERS.

THE flowering of Saxifrages on rockwork in English gardens, which begins with *S. Burseri* and *S. sancta* in January and continues till nearly the end of summer, may be said to attain its greatest development in June, when *Saxifraga longifolia* is in flower. As an ornament this is, perhaps, the most striking of all the Saxifrages, whether we see it when lengthened out into its fine pyramid of white flowers or as a silver-edged rosette a foot or more across, waiting to flower for another season. The species is native only in the Pyrenees, where it grows in the crevices of the perpendicular rocks, sending out horizontally its beautiful cone-shaped panicle 2 feet or more in length, waving to and fro in the breeze. As

the commonest species with which it crosses in its own home being *S. Aizoon*. The finest specimens are single crowns, and, as in all the encrusted Saxifrages, a crown dies after it has lengthened out and flowered. Nearly all the plants of *S. longifolia* flower once and then disappear, so the stock has to be renewed from seed. Seed should of course be saved from the finest individuals, but when many species flower together, as they do in English gardens, there is always danger of taint from some inferior kind, for these Saxifrages all cross readily. Seed should be sown in pans filled with riddled limestone between the size of wheat grains and mustard seed, and mixed with one-fourth part or less of good loam. The seedlings come up very slowly, being at least two years before they are an inch across. They should not be transplanted to the rockwork till they are 3 inches across,

prejudice against those in it which are really good.
C. WOLLEY-DOD.

Notes from Baden-Baden.—*Stachys grandiflora*, although not a new plant, is seldom met with true to name; it is, moreover, a very showy handsome hardy perennial well worth having, flowers in compact spikes, pale rose. *Lilium chalcedonicum* var. *Heldreichi* is one of our showiest summer-flowering Lilies; it is the scarlet Martagon, and differs from *chalcedonicum* in its brighter colour. It is easily grown, and only wants to be left alone for several years. Of *Scabiosa amoena* I have at length succeeded in raising three fine varieties, deep ultramarine, pale sky blue, and pure white. Among an importation a new *Kniphofia* has turned up, flowers yellow, changing to orange; the foliage is grass-like, narrow, and the flowers appear from April until frost comes. Another new species has



Part of rock garden in Rev. C. Wolley-Dod's garden at Edge Hall, showing tufts of *Saxifraga longifolia*. From a photograph by Miss Wolley-Dod.

one looks at them growing on the high cliffs which rise on both sides of the torrent where it is spanned by the Pont Napoleon at St. Sauveur de Luz, and where they are finer than I ever saw them elsewhere, one wonders how it is that after seeding downwards for centuries they have not all congregated at the base of the cliffs; and so they must have done if the seed were not carried upwards by violent winds. It is generally thought to be an essential of this species that it grows as a single crown, and does not, as closely allied Saxifrages do, spread laterally by offsets. I do not, however, find this one-crowned character given by botanists, nor is it invariably present. Still, when several crowns are found united, there is generally some suspicion that it is hybridised,

and then care should be taken that there is a deep crevice in which they can root firmly, and they must not be expected to maintain themselves by spreading their roots over the surface. They seldom flower till five or six years old. In the engraving the plants of *S. longifolia* are shown in a group without flowers. Those in bloom belong to *S. Hosti*, *S. lantoscana*, *S. Macnabiana* and some others which flower in June, but with a spreading panicle instead of a conical head. Many neat smaller kinds flower simultaneously with these, amongst which are several varieties of *S. Aizoon*, *S. cochlearis* and *S. valdensis*. These are followed in July by some very ornamental species of *Sedum*, which are not sufficiently appreciated, perhaps because some of the genus are so weedy as to cause

white flowers—perhaps 500—in a very long spike, and is a most striking plant, which I hope to distribute this autumn. There are several new *Richardias* with white and sulphur-coloured spathes. *R. Adami* still holds a foremost rank; its half white half violet-black flowers at once attract the attention of visitors.—MAX LEICHTLIN, *Baden-Baden*.

The Ononis.—Though hardly to be classed as shrubs, some of the *Ononises* should commend themselves to lovers of flowering shrubs, their general appearance being shrubby and they flower freely. Our native form, the common *Rest Harrow*, is a pretty plant when seen in broad patches by the roadside, but some of the imported forms are great improvements on it. I think *O. rotundifolia* is the best of them all, and I have in it a subshrub with leaves like those of a wild Rose

or a Sweet Brier and Pea-shaped rose-coloured flowers, borne mostly in triplets on the new growths. It is quite hardy, and grows about 2 feet high in any common garden soil, being best placed on a mound or in the rock garden. A good plant was exhibited at the recent Temple show, where it attracted considerable notice. *O. arragonensis*, a yellow-flowered species, said to be half hardy, is hardy enough to pass safely through any ordinary winter in elevated positions throughout the southern counties, and *O. natrix* is quite hardy, the flowers orange-yellow, coloured with reddish-brown stripes and veins. *O. fruticosa*, with purple flowers borne in triplets and with good foliage, is a handsome and hardy species.—J. C. T.

FLOWER GARDEN NOTES.

SOME INTERESTING CONTRASTS.—In a recent note on the association of certain flowers with hardy shrubs I referred to *Tamarix gallica* as a fine-foliaged plant that later in the season would show off brightly coloured flowers to the best advantage. For the first time that I have grown it, it is this year flowering freely, and bushy compact plants a little over 3 feet in height and as much in diameter thinly planted among crimson *Antirrhinum*s help to make a very charming bed. A shady north-west corner partially planted with *Gloire des Polyantha* Rose was last autumn filled in with *Spiraea astilboides* transferred to this position from a rather dry border. Both are now in flower and the effect is very pleasing. The Roses have developed into good bushes and stand up well above the *Spiraeas*, the latter, it may be added, being well away from the bushes. Both *Gypsophila* and the Sea Lavenders make admirable companions for brightly coloured flowers, either annual or perennial, the latter for choice, as being the more natural association. I am interested in the growth of a batch of seedling *Statice*s planted in the autumn of 1896, and noted last year as varying considerably alike in shade of flower, size of panicle, and early or late development. Present appearance seems to indicate that the same variation will be apparent this season. On large lawns no more interesting feature is to be found at this season of the year than big bushes of garden Roses. I made to-day a rough measurement of an *Aimée Vibert* that was planted eight years ago against an old tree stump; it is 10 feet in height and nearly 20 feet in diameter, a mass of flower, with just sufficient foliage showing between the clusters to relieve the flat surface. On another old tree stump some 20 yards away from the *Aimée Vibert* a *Crimson Rambler* was planted last autumn; it is going away well, and in some future number of THE GARDEN I hope to chronicle the fact that it has attained the dimensions of the white *Noisette*. Similar effects on a smaller scale can be obtained on small lawns with the aid of the *Polyantha* type, of which, in addition to *Gloire des Polyantha* above mentioned, *Anna Marie de Mont-ravel*, *Mignonette*, and *Perle d'Or* are among the best. I have not tried the newer *Mosella* and *Perle des Rouges*, but should imagine that both, especially the latter, will prove very valuable additions to this interesting section. Returning again to the question of present contrasts in the flower garden, I am inclined to enforce the opinion that an equally effective and much more natural display is obtained with hardy than with tender plants, unless the latter are thoroughly well done. No one can say a word against the splendid specimens of *Fuchsias*, *Heliotropes*, *Ivy-leaved Pelargoniums*, and others as employed in some of the best of our public and private places, but if such plants are scraggy in habit and only thinly flowered they present a sorry appearance.

SOME GOOD ANNUALS.—*Gypsophila elegans* I should like to make a special note of as paniculata is very late this year, and the value of the annual is therefore considerably enhanced. Where it was sown early, and either allowed to remain after thinning in the same position or carefully transplanted, it is now in full flower and furnishing

splendid material for cutting; indeed, so much is it in request that it will be found advisable another season to plant out a batch for this purpose. Grown in pots it is a useful greenhouse plant, presenting a pretty and effective contrast to blue *Achimenes* and *Streptocarpus*, and at a local show it helped not a little, associated as a carpet with bright-coloured *Gloxinias* and *Maidenhair Ferns*, in gaining a first prize for a group. *Godetia gloriosa* is a fine dark variety of this favourite annual, of sturdy, compact habit, the flowers being produced in great profusion and standing well. Alternate plants of this and *G. The Bride* make a charming bed. Anyone looking out for a dwarf bedding plant should make a note of *Marigold Legion of Honour*, a brilliant little thing that flourishes in almost any soil and lasts well throughout the season. A variety of *Salpiglossis* known as *superbissima* fully bears out the high character received with it. I have it in a bed with a good dwarf white *Antirrhinum*, and it is just beginning to make a brave display. *Coreopsis coronata* is a common annual so far as age and price are concerned, and might be grown more frequently. Larger in the foliage and much more compact in habit than others of the family, it grows into dense little bushes and throws its flowers well above the foliage. There is not much distinctive central colouring about the flower, but it is at once light, graceful, and pretty.

Claremont.

E. BURRELL.

HYBRID LILIES.

THE award of a first-class certificate recently to a hybrid Lily, *Lilium Marhan*, reminds me one that very few hybrids of this extensive genus have become popular garden plants. The first place is certainly occupied by *L. testaceum*, a hybrid between *L. candidum* and *L. chalcedonicum*, but whose early history seems to be completely unknown. It is in every respect a very beautiful Lily, whose gracefully disposed blossoms are of a pleasing shade of yellowish nankeen or buff, while its robust constitution renders it a really good hardy border Lily. *Lilium Marhan*, whose parentage is recorded in the name thereof, is a hybrid between some form of the *Martagon* Lily and the Japanese *Lilium Hansonii*. It is after the manner of an older hybrid—*L. Dalhansonii*, of which a coloured plate was given in THE GARDEN, September 16, 1893. This was raised by Mr. Powell, of Southborough, Tunbridge Wells, and first flowered in July, 1890. In all respects it is about midway between its parents, the black *Martagon*, known generally as *L. dalmaticum*, and the yellow-flowered *L. Hansonii*. *L. Dalhansonii* has proved to be of good constitution, and is now generally to be met with in most collections, but, of course, it is as yet far from common. Under the name of *L. Beerensii* I noted a very pretty Lily in flower with Mr. Ware at Tottenham some three years ago. It was the result of a cross between *L. chalcedonicum* and the above-mentioned hybrid, *L. testaceum*. The foliage was more in the way of that of *L. chalcedonicum*, while the flowers, which suggested those of the other parent, were of a deep apricot colour, with prominent red anthers. I do not know whether this Lily is now in cultivation. *Lilium Parkmani*, a hybrid between *L. auratum* and *L. speciosum*, has attracted a deal of attention from time to time, but it does not seem very amenable to cultivation, and has not been put into commerce. It was raised in the United States by Mr. Parkman, and first flowered in 1869. Out of fifty plants raised from this cross only one proved to be *Parkmani*, the rest being simply *L. speciosum* (the seed-bearing parent). After a time *L. Parkmani* was sent to this country and passed into the hands of the late Mr. Anthony Waterer, who exhibited it at a meeting of the Royal Horticultural Society on August 24, 1880, when a first-class certificate was awarded it. It is a pity that this Lily has proved so difficult to cultivate. Several hybrids between *L. umbellatum*, *L. elegans*, and *L. croceum* have been seen within the last few years, while it is very probable that some

of the Lilies usually regarded as varieties of one or the other are in reality of hybrid origin.

Besides these many other hybrid Lilies have been raised, but they have never become generally cultivated, while a few imported forms have been by some regarded as natural hybrids. A prominent member of this latter class is *L. Alexandra*, which has been spoken of as a hybrid between *L. longiflorum* and *L. speciosum*, or *L. longiflorum* and *L. auratum*. T.

NOTES ON HARDY PLANTS.

Armerias.—It is a common thing to find these fail just when they should be at their best, especially the less common and brighter coloured forms of the common Thrift. A kind getting a foot high with very big and bright rosy flowers fails more or less every year. The cause for this will be found on close examination of the grass-like leaves. Just now the herbage is speckled all over with black dots, which are really a fungus, coming to maturity at a rapid rate. The Paris green remedy should be applied at once. There is no saving the plants of this choice kind known as *grandiflora* of trade lists unless the fungoid growths are killed before they ripen. So far as my experience goes, all the *cephalotes* and *plantaginea* group are practically exempt, but the vulgaris section, in which we have not a few both choice and showy, and including the pretty little *setacea*, are liable to take the fungus.

Helianthemum venustum.—This is, perhaps, the deepest colour of all the reds of the Sun Roses, but it is more especially to the double-flowered form that I would direct notice. For a month or more in early summer it is one of the richest and most reliable pieces of crimson you can get. These double flowers last for days and the succession is long. It is, however, big patches that must be had, either by patience for growth, or massing a number of plants together.

Veronica anomala on rockwork proves thriving and quite hardy; it belongs to the Box-leaved-like section. Its peculiar habit when not in flower strikes one as more curious than beautiful, but now, when in bloom, its peculiar habit is not only emphasised, but the pendent clusters or conglomerate spikes of milk-white flowers display themselves to good effect, and just now the bushes of 18 inches or 20 inches high are really attractive.

Primula Reedi at the present time is making rapid growth, and those who have had difficulty in establishing this rarest and loveliest of all Indian Primroses might profitably take a hint from the plant itself and set it permanently whilst leafing, as it is at the corresponding time that the strongest roots are pushed forth.

Parochetus communis.—It seems strange that this free-growing and ready-rooting creeper should remain so scarce in our gardens, though so well known and admired. It is true that severe winters kill it in the open, and so they do many other things we manage to always have in plenty. There must be some other cause, and as a matter of fact large batches of young stock go off in winter when protected in frames, and more, a similar state of things happens to young stock even in mild winters like last when older plants survived without any protection. A low temperature in winter does not alone seem to be responsible for the loss of young stock; the latter often fails where older plants keep on. After an experience of twenty years or more with this charming creeper, I have learnt that I can only pull young plants through the winter, either in open air, frame or greenhouse, when I have allowed the rooted offsets to remain long enough on the old plants to develop the bulky granules or warty knobs on the roots. When I get these I pot the offsets early enough in autumn so as to get them established. I rarely lose one. Still, I always give the younger rootlets a chance, and if they do not live, as they seldom do, they serve to confirm this theory. I supposed if I kept the youngest offsets growing all winter the granule-

beset roots could not matter, but I never found I could keep the plants growing all winter, not even in a greenhouse. I have got untimely seedlings to move all winter, but after the plants had matured and once come into harmony with the seasons they proved consistent to their herbaceous nature.

J. Wood.

Woodville, Kirkstall.

Hardy flowers in cottage gardens.—At the end of June when driving through the small town of Ilminster I noticed a small villa garden. The garden, though small, was an object-lesson of what can be done by using hardy plants. The centre bed was a little raised by using rough stones as an edging. As they were irregular, this allowed soil to be put in amongst them. On this, outside and amongst the stones, was a wide band of *Campanula muralis*, one mass of bloom. Inside of this was a grand lot of white Pink in the best possible condition. As a centre the double white Rocket was used. This, too, was in the finest health and only slightly staked. Anyone who knows these plants can imagine what a fine effect they produced.—DORSET.

Tufted Pansy Duchess of Teck.—To those who know the value of what is generally known as the Duchess of Fife family, this new sort should come as a welcome addition. This type of the plant has always been appreciated for its freedom of flowering, crawling and tufted growth, and the pleasing nature of the margined flowers. The variety under notice is supposed to be a sport from White Duchess, and the blooms I am sending you, you will notice, have a much narrower margin, and the colour of the margin is also much brighter. From a florist's point of view the form may be questioned, but all who have seen the blossoms say the uneven outline makes the flowers more pleasing and unique. The growth is similar to that of the parent variety and it is wonderfully free-flowering.—D. B. C.

Lifting and storing Tulips.—In many gardens Tulips of the later sections have fallen prey to a disease which prevents the proper development both above and below ground, and this is more common where they have been grown in the same ground without any lifting for some years. I find that such bulbs are prone to break into many bubblets instead of forming one good bulb and a little spawn, the consequence being a whole army of small bulbs and very few flowering ones. In this matter the different varieties vary, some, like Golden Eagle (which, by the way, the Dutch growers say should be Golden Crown, the true Golden Eagle being a self yellow, and the other edged with red), *Gesneriana spatulata*, make very good bulbs and not over-much spawn, while the Parrots and a few others break up badly. As the disease attacks the old bulb scales as well as the leaves, it is best to look over the bulbs a few weeks after they have been lifted and stored in a dry, airy shed, and remove all the outer scales, so that the new bulb has nothing left but a bright and clean covering; this gets rid

of a multitude of spores, and gives a chance of getting a clean start when planting time comes round. There can be no doubt that Tulips like a change of soil, though it happens occasionally that they do well for years without lifting, but they ought at least to be lifted when they show the least sign of falling off in quality, and are best if lifted early.—J. C. T.

IRIS LUPINA.

IRIS LUPINA grows here with other Cushion Irises on a raised bed of sandy soil. I place over them in winter a layer of straw—as a matter of detail, I use the straw covers of wine bottles cut so as to lie flat. This, I think, keeps the soil open besides affording some slight protection. After flowering, I dry the Irises off by placing lights over them, so arranged that they are freely exposed to the



Iris lupina at Beechfield, Walton-on-Thames.

air. In a similar bed I grow *Calochorti*, *Ixias*, *Brodieas*, and *Sparaxis*, and find that they do remarkably well. The *Calochorti* especially flower profusely and increase very year. They are, I think, very charming.

NORMAN RUSHWORTH.

Beechfield, Walton-on-Thames.

Leucojum æstivum.—After I had penned the note on the above Snowflake which appeared in the issue of May 21, I noticed in Mr. Archer-Hind's garden at Coombefishacre some of the same variety flowering finely close to the water, and in a position which I should say was certainly damper than the bed they now inhabit in my garden. Since then I have been told on good authority that the summer Snowflakes grew of yore at Dartington Hall, on the banks of the Dart, and flowered well close to the water, some, indeed, being literally in the river and often covered by it in flood time. It has occurred to

me, since I have seen one case and heard of two others, the one here mentioned and the other alluded to on p. 430, vol. liii., where these bulbs have flowered well in damp positions, whether I may have got hold of a flowerless or shy-flowering strain, and that possibly this and not the condition of the soil may account for their failure to bloom.—S. W. F.

NOTES AND QUESTIONS.—FLOWER.

Tufted Pansy Florizel.—This is now in excellent form. Very small pieces planted out during last March are now creeping slowly all over the flower beds, and at each of the short joints blossoms of the finest description are produced. The colour of the flowers may be described as bluish-lilac. The flowers stand up well on stiff, erect footstalks.—D. B. C.

Tufted Pansy Devonshire Cream.—Though the flowers of this variety lack the substance of those of many other sorts, yet they are so freely produced and neat that it should be largely grown. The growth is compact, although not so dwarf as one would like. The flowers are of a beautiful cream colour with a yellow eye. This sort commences to bloom very early in the season and continues right on through the summer.—D. B.

Tufted Pansy Celeste.—This variety is comparatively unknown, yet it is a distinctly pretty flower. The blossoms are only of medium size, but they are so pretty and neat, that loss in size is amply made up for. The colour may be described as bluish-lavender, paling slightly in the centre, and it also possesses a neat and effective yellow eye. The habit of growth is dwarf and compact. The blossoms also are fragrant.—B.

Tufted Pansy Blush Queen.—There appears to be a difficulty in making large plants of this variety the first season, judging by the results of the last two years. If the plants are cut back in the late summer and allowed to remain in the same position for another year the value of the variety is apparent. At the time of writing, these old plants are literally covered with medium-sized blossoms of a pale blush colour and very sweet scented. The plants are now in a most robust condition.—C.

DESTROYERS.

SPRAYING—ITS PAST, PRESENT AND FUTURE.

THE history of spraying is a most remarkable one, considered from almost any point of view. Fifteen years ago we knew scarcely anything in regard to it, but to-day the progressive fruit raiser can obtain reliable information upon almost any phase of the subject. The first remedies proposed were most unique, and seem to have been suggested by the same train of reasoning which actuated our grandmothers when they selected remedies for their ailing grandchildren, namely, that the more horrible the odour of a substance and the more fearful its taste, the more certain it was to prove efficacious. Yet occasionally, in some mixture of a half-dozen or more such substances, one would be introduced which was really effective, and in this way these early, spasmodic efforts to prevent the inroads of our insect enemies resulted in some discoveries of actual value. Tobacco was among the first substances to give satisfactory results, its use having been suggested, doubtless, by the experience of someone who had made an unsuccessful attempt to learn to smoke—and thus one substance after another was added to the list. But these accidental discoveries were made slowly, and their actions were but little understood, so that improvements in methods of application resulted

only after years of experience. And if the prevention of the attacks of insects was shrouded in darkness, what can we say to describe the state of affairs with reference to fungoid diseases, those mysterious visitations which often came so suddenly and always left ruin and consternation behind? What wonder that the poor fruit raiser felt himself under the ban of Providence and abandoned the field to his enemies? One can imagine that he announced to his fellow sufferers, with even more assurance than does the representation of this type to-day—"Fruit raising doesn't pay!"

But in time men began to study these matters scientifically, which is only another name for carefully. The structure and life of the insect were studied with a view to attacking it at its weakest point, and as a result we have our present system. Every new pest that has come into prominence has been subjected to the same careful study, and in every case, in the past, some method of treatment has been devised which has proved effective. The difficulty now is, not that we do not know what ought to be done, but that we do not do it. It is a curious study to look back over the past and to notice the career and final downfall of the different pests that have appeared, each heralded, as is the San José scale to-day, as the last straw which was to "break the camel's back," and to wipe the fruit industry from the earth. Yet each, after a longer or shorter time, has been subjugated by the use of some new remedy, or the modification of an old one, or by the increase of its natural enemies; and each one, after the reign of terror caused by its first appearance, has taken its place along with other pests, not, indeed, to be forgotten, but to be provided for as we provide for the destruction of weeds in our fields, or as we ought to provide. And I am willing to go on record as saying that, in my opinion, the San José scale will be no exception to this rule, but that a remedy will be discovered which will be effectual and yet cheap. I do not wish to be understood as trying to detract from the reputation which the San José scale has been able to make for itself, but I do wish to give a little hope to those poor mortals who think that the fruit industry of our own province is at an end because, forsooth, the San José scale has appeared in Ontario. I believe that whatever we can do to delay the time when we shall have this new pest to fight ought to be done, for the methods of fighting it are continually improving. And I believe that all plantations set within the last few years should be inspected, to make sure that the scale is not already within the province. Aside from this I believe we can only watch and wait. The universal adoption of spraying seems to be delayed principally by three classes of fruit raisers. First, there is the man who has not time to spray. And secondly, there is the man who firmly believes in spraying and often makes some attempt in that direction, but without any especial result either in the amount of spraying he really does or in the good which this little is able to accomplish.

And lastly, there is the man who thinks that "spraying doesn't do no good nohow." Of course there may be men in other countries, however, who still honestly doubt the beneficial effects of spraying; and I, for one, though I am somewhat of an enthusiast on the subject of spraying, am willing to concede that there may be times, there undoubtedly are times, when spraying does no good; times when it may even do harm. But these adverse results can almost always be explained after a careful investigation, and we will usually find that they are due

to our lack of knowledge on the subject. And if, in some cases, they cannot be explained, is that a sufficient reason for abandoning the practice altogether? For every instance in which spraying has proved a failure there are numberless cases where it has been an entire success; yet some men persist in looking for the failures and utterly ignoring the successes. It is singular how much evidence some people require to convince them of the utility of such a practice as spraying, and yet these same people will pay 75 cents apiece for Peach trees which are warranted to withstand any degree of cold because the sap in them "goes down" in winter or does not "go down" (either warrant is equally effective in securing their orders), and they will not hesitate a moment to pay 1 dol. apiece for Pear trees that are warranted to be "blight proof," though this warrant consists only in the word of a "fruit tree agent," that class of individuals which, with certain notable exceptions, has perpetrated more frauds on a long-suffering public than has any other, with the possible exception of the lightning-rod dispersers. It certainly is true that "people like to be humbugged."

But admitting, for the sake of argument, that the practice of spraying still occupies debatable ground, let us see what has been done to show that it is effective in preventing the ravages of our insect and fungoid enemies. If we look for evidence among our own neighbours I think it will not be lacking. I have talked with a number of men in this province who have told me that during last season, when so few Apples were raised, the men who did succeed in producing a fairly good crop were those who persistently sprayed their trees; and not only did they produce more fruit than their neighbours who did not spray, but it was better fruit, free from the black spot which so injures the appearance and keeping qualities of our Apples, and free from worms. If we go farther from home there is hardly an experimental station in Canada or the United States which has not experimented upon this subject and issued bulletins on the results, showing in almost every case a large increase in the percentage of sound fruit from sprayed trees as compared with that from unsprayed trees. In this connection let me quote from an article in the last number of the *Canadian Horticulturist*. Speaking of the benefits of spraying it says: "As an illustration of this, where spraying was done from 75 to 90 per cent. of the fruit was clean, while from the trees in same orchards not sprayed only 10 to 15 per cent. of the fruit was fit to pack. Spys and other red fruit from sprayed trees commanded 3 dols. 50 cents per barrel. The best fruit from unsprayed trees would bring but 2 dols. per barrel." Continuing it says: "For fear the farmer with a small orchard may think this spraying business does not concern him, one man's experience is given." Mr. George Adams, of Smithville, Ontario, writes: "I have eleven Spy trees. Eight of them were sprayed, and the result was twenty-four barrels of the finest fruit I ever picked from them. I sold them at 2 dols. 50 cents. per barrel, and four barrels of culls at 1 dol. per barrel, 64 dols. in all. These culls were not spotted, but were undersized and wormy. The three Spy trees not sprayed gave three barrels of badly spotted fruit, which sold for 2 dols. per barrel, and about ten barrels of culls which I sold for 1 dol. 25 cents for the lot." That is to say, the sprayed trees brought 8 dols. each, and the unsprayed trees less than 3 dols., a difference of more than 5 dols. per tree." Such instances might be multiplied, but it is not necessary.

EFFECT OF SPRAYING.

There are still some people who feel that substances which are so effective in destroying insects and fungi ought to have some injurious effect on the consumer of the fruit, and who, therefore, feel that they are tempting Providence every time they eat an Apple or a bunch of Grapes that has been sprayed. For the benefit of such people let me quote from the late Mr. Lodeman, of Cornell University, a recognised authority on spraying. He says: "Fears have been entertained that some substances are dangerous, even when not visible, on account of their effect upon the crop, which was supposed to be poisoned. This subject was well agitated when Paris green and London purple began to be commonly used in the destruction of the Potato beetle. My analyses were made, but no arsenic could be found either in the tubers or in the parts above ground, and soon all fears of arsenical poisoning disappeared and Potatoes treated with the arsenites were used without question. Another equally groundless objection was raised in regard to Apples which had been sprayed for the canker worm or codlin moth. It was said that the bloom found on such Apples consisted largely of the arsenic which had been applied to the trees to destroy insects, and that such Apples were unfit for use. These reports have led to many analyses of sprayed fruit, and only in rare cases has even a trace of arsenic been found. It is only when very late applications are made, such as are utterly useless, that any of the poison is found upon the fruit, and then the quantity is so minute that it could in no way cause injury to the consumer. But even though all the poison sprayed upon the Apples in making necessary treatment would remain there undisturbed, a person would be obliged to eat at one meal eight or ten barrels of fruit in order to consume enough arsenic to cause any injury. As a matter of fact, however, the poison all disappears during the growth of the Apples, and these are as wholesome as though no treatment had been given, and even more so." Similar objections have been raised against Grapes sprayed with Bordeaux mixture, and the following paragraph is a clear and concise statement of the facts bearing upon the case: An adult may use about eight grains of copper per day without fear of the results, and Grapes properly sprayed would contain not more than eight-hundredths of a grain in 4 lbs. or 5 lbs. of fruit. "On this basis an adult may eat from 300 lbs. to 500 lbs. of sprayed Grapes per day without fear of ill-effects from the copper." Equally conclusive figures have been given by the Experimental Station of Michigan to show that there is not the slightest danger from pasturing stock in orchards which have been sprayed with Paris green. I shall not give these figures, because I believe that if anything could be done to convince fruit raisers that it is bad practice to pasture their orchards, a long step in the right direction could be taken, and it is possible that fear of evil effects of Paris green may help on the cause. It is probable, however, that if this fear has any effect it will be to prevent spraying and not the pasturing of orchards. In order to understand more fully what we ought to do to make our spraying most effective, let us consider a few points in regard to the life history and structure of fungi and insects. First, with respect to

FUNGOID DISEASES.

What is it which causes the black spot of Apples, leaf blight of various trees, and other similar diseases? In each case it is simply an exceedingly small plant, very different from

our conception of what a plant is, and this little plant grows within the leaf or fruit for a certain length of time, and then produces its own fruit. These plants are produced from what is called a spore, corresponding to the seed of higher plants, and exceedingly minute, so that, in most cases, it can be seen only with the aid of a microscope. In the spring these little spores, which are very abundant, are blown about by the wind and finally lodge upon the leaf or fruit to be attacked. Here, under favourable conditions of warmth and moisture, the spore germinates, just as a seed would do in the ground, and sends out a little sprout. This sprout grows on the surface of the leaf or fruit for a time and then enters into the tissues of the plant, either through one of the minute openings, called breathing pores, which are quite abundant on the surface of many parts of plants, especially the leaves, or else it bores directly into the plant. Once inside, it branches and grows about through the tissues of the plant, just as roots grow in the ground. It takes up the juices of the host plant and appropriates them to its own use, and finally, when it has completed its growth, it bears its fruit, producing spores like that from which it started. These spores are usually dark in colour and are produced at or near the surface of the host plant. They are so abundant as to give to that particular spot a dark colour. It is these spores which give the characteristic appearance to the disease known as "black spot" of the Apple. This, in brief, is the history of a typical fungoid plant. Many of them vary in some particular, but this is sufficiently accurate to serve our purpose.

Now let us see what points we can observe which may aid us in applying our sprays so as to accomplish the most good. In the first place it is quite evident that in dealing with these pests all our applications must be preventive, and not remedial. For when once the fungoid plant gains access to the leaf or fruit, it is beyond the reach of sprays, and can be destroyed only by destroying also the part affected. We must, therefore, begin to spray early, or the enemy will get ahead of us, and gain access to the plant before we are aware of it. Secondly, we must keep the plant protected with our sprays so long as there is any danger from the attacks of the fungus. And, lastly, since the spores are so very small, we must use every precaution to see that all parts of the plant are reached by the spray, and not only upon the spore alighting upon the particular spot where we have prepared for its reception. I would suggest the following treatment for the "black spot" of the Apple, or leaf blights, which are a fair sample of this class of disease: First, spray the trees, before the buds begin to swell in the spring, with a solution of copper sulphate or bluestone, 1 lb. to 15 gallons of water. Let me emphasise the fact that this must be done before the buds swell in the least, or they may be injured by the treatment. Next, as soon as the leaves are well "out," spray with Bordeaux mixture, and continue to spray with this latter whenever an application is needed. As to the number of times to spray, that depends greatly on the weather. If there is no rain, a single application may last for two or three weeks, but with heavy rains a second application may be needed in as many hours. From two to six will usually be sufficient, according to season and variety. The labour of preparing Bordeaux mixture can be very materially lessened by the use of what is called a stock solution of the copper-sulphate. That is, instead of weighing out 6 lbs. of bluestone and dissolving it each time that you wish to

prepare a barrel of the mixture for use, instead of this, dissolve, at the beginning of the season, a quantity of the bluestone in water, say at the rate of 1 lb. of bluestone to 1 gallon of water. Then all that is necessary, when you are ready to spray, is to measure out 6 gallons of this solution, and you have 6 lbs. of copper-sulphate. The lime cannot be treated in quite the same way, but enough should be bought in the spring to last through the season—and be sure that it is fresh. Then slake the lime, and keep it in what is known as the "putty." If it can be kept under water so much the better. Of course, when wanted for use it cannot be weighed out, or measured out, and, consequently, we must test the solution to see when enough has been added. This is done as follows: Put the 6 gallons of copper-sulphate solution into the barrel, and add 10 or 15 gallons of water to make the solution more diluted. Now take some of the lime putty and mix with water as though you were preparing some whitewash. Add this to the solution in the barrel, and stir thoroughly. And now apply the test to see if enough lime has been added. Take a pen-knife with a bright blade and place the tip of the blade in the mixture, moving it backward and forward for a minute, and then examine it. If you have not added enough lime you will find bright, metallic copper deposited on the blade, and you must add a little more lime, stir well as before, and test again. After a few trials one can tell very nearly how much lime is required. By simply adding a quarter to a third of a pound of Paris green to each barrel of Bordeaux mixture, we may be able to deal with both our insect and fungoid enemies at the same time, thus reducing both cost and labour.

Use the best materials in spraying, pure Paris green, fresh lime, and copper-sulphate in crystals. They may cost you a little more, but the better results will very much more than pay the difference. But whatever else you may do that is not strictly rational, do not spend any money for patent exterminators, either of insects or fungoid diseases. Buy the materials and mix them for yourself, and then you will be sure what you are applying. Some of those patent concoctions may be all right, but too many of them are like the remedy for which the hotel-keeper's wife paid an exorbitant price, and which was warranted to clear the house of bed bugs. She received a small package of Paris green, with these instructions: "Capture the bug, squeeze the back of his neck till he sticks out his tongue, and then apply a few grains of Paris green." The importance of a fine spray cannot be over-estimated, since by its means all parts of the plant may be reached and protected from insects and fungi. Materials for sprays must be cheapened, either by the discovery of new substances, which are effectual, or by cheapening the production of those already in use, and some power must be introduced which shall be cheap and efficient, and which shall relieve the fruit grower from so much back-aching work at the end of the pump handle. Add to all this the fact that a small army of investigators will continue to study the insect and the fungoid plant from every point of view, and to suggest, year by year, new methods by which we may hope to make our attacks more and more successful. One other improvement we must hope for in the future, and that is that every fruit grower, whether he has two Gooseberry bushes or 2000 acres of orchard, shall spray his plantations thoroughly and intelligently. Then we can offer our fruit with confidence, sure that it will be satisfactory and sure that we can find a

market for all that we can produce.—F. C. SEARS, in the "Annual Report of the Fruit Growers' Association of Nova Scotia."

THE PEA THIRPS.

(THRIPS PISIVORA.)

COMPLAINTS were made, according to a leaflet (No. 48) issued by the Board of Agriculture, by Pea growers in Essex in the summer of 1896 of injury caused to Pea plants by an insect said to be a species of thrips. Some injured Pea plants and specimens of an insect found upon them were received by the Board of Agriculture early in July, 1896, and the insect sent with them proved to be the Pea weevil (*Sitona lineatus*), and not a species of thrips. Again, in July, 1897, information was received by the Board that the thrips insect was spoiling the Pea crop in parts of Essex. No specimens were received, and it was assumed that the Pea weevil was the offender; but about the same time injured Pea plants were submitted by growers of Peas in fields and gardens in Kent which were infested by a species of thrips. The haulm in these cases was fully developed, and in many instances it was luxuriant, but flowers and perfect pods were generally wanting. Here and there a plant was found having a few abortive flowers and flowers with dried-up calyces and shrivelled petals, and an occasional pod was seen without the sign of a Pea in it, distorted and prematurely browned by the punctures of the thrips. It appeared that the continuous sucking action of numbers of these insects and their larvae had prevented the fructification of the plants, and in most cases had completely arrested the formation of flowers and pods, the insects having arrived on the scene just at the time when the flowers should have formed and the haulm was in full vigour. Where the flowers and pods should have been there was a shapeless mass of "pungled matter," which is the expressive term applied by Curtis to wheat plants similarly affected by another species of thrips, known as *Thrips cerealium*. Thus, there was the unusual spectacle of whole rows of Pea plants of over average size, good colour, and apparent health without flowers and pods and utterly useless. Upon examination by a casual observer, the insects would hardly be discovered, as they are very minute, and if noticed they might very naturally be regarded from their size as too insignificant to cause such wholesale mischief.

LIFE HISTORY.—The thrips found in these Pea plants is probably the same species of thrips as that observed and described by Westwood as infesting and injuring Pea plants in precisely the same manner as has been described above. Westwood regarded this as an unnamed species, and styled it *Thrips pisivora*, and from his figure given above and descriptions it seems to be identical with the specimens forwarded to the Board of Agriculture. In size it is hardly the twelfth of an inch in length when full grown, and in the larval state it is not quite so long. The insect is greyish yellow in colour, without wings, and possesses seven-jointed hairy antennae, four of the upper joints being yellowish and the lower ones black. The eyes are red, and the mouth is furnished with a short fleshy sucking apparatus; there are three pairs of legs, with feet shaped like bladders, which is characteristic of some species of Thripidae; and at the end of the body there is a brown or reddish brown ovipositor. The winged specimens of the thrips found on the Pea plants were darker in colour, and had two pairs of wings with long fringes, folded down the whole length and extending beyond the body. West-

wood, in his description of the Pea thrips, evidently holds that the females of this species are wingless, as he says, "We met with no males, unless indeed a very few other black fully-winged specimens may be of that sex." In the case of some species of thrips, as *Thrips cereale*, for instance, the males are wingless. The female places eggs of microscopic size close to the midribs of the leaves, from which the larvæ come in seven or eight days, and at once begin to suck up the juices of the plant. There are many generations during the summer. The winter is passed in the perfect state in the earth, or in the bark of trees and other similar shelters.

METHODS OF PREVENTION AND REMEDIES.—After an attack of this insect, Peas should not be sown in the following year near the infested spot. In gardens where Peas are trained upon Pea sticks it would be possible to spray the plants by means of a knapsack machine; but in fields where sticks are not used and the foliage grows densely, this would be almost impracticable. The best mixtures for spraying would be 5 lbs. of soft soap and the extract of 5 lbs. or 6 lbs. of quassia chips to 100 gallons of water.

BOOKS.

THE PRUNING BOOK.*

YET another addition to "The Garden-craft" series by the indefatigable Professor Bailey, of the Cornell University, New York, and equally as welcome as its predecessors. Unless I am much mistaken, this is the first work of the kind wholly devoted to pruning, and in any case it fully deserves careful perusal by all interested in the formation of trees generally, and fruit trees in particular. The book is brimful of information, the writer taking the common-sense, practical views known to be correct, and not offering mere theories formed in some study or based on the limited experience gained in a single garden. What adds so much to the instructive character of "The Pruning Book" is the large number of woodcuts, illustrating every important point brought out, numbers of object-lessons being conveyed in a manner that appeals to the mind of the most superficial reader. The work is divided into two parts, "Fundamentals" and "Incidentals," and opens with the "Philosophy of Pruning," wherein the writer maintains that pruning, while often improperly and injudiciously done, is not of itself a devaluing or injurious practice, presenting arguments from three sources—philosophy, plant physiology, and common experience—in support of his contention. As stated at the end of this interesting chapter,

There is abundant opportunity for improvement in methods, and every plant needs a particular treatment, and perhaps some species or varieties demand little, if any, thinning; but, as a whole, pruning is indispensable to successful horticulture.

Millions of fruit trees in this country testify to the truth of both the need for pruning as well as an improvement in the methods where pruning of any kind is attempted, and a pity it is we are so very behindhand in this matter. Not till pruning, not omitting the philosophy as well as the practice of it, is taught as a subject in secondary schools will any real widespread improvement take place. It is said that all-round training is an aid rather than a hindrance to the acquisition of knowledge of which the student has the greatest need, but if this variety is indispensable, why not let it take a more serviceable and lasting form than at present? Once more I repeat they do these things better in America.

Much of the pruning that is carried out among us is done by men who may be sufficiently practi-

cal, but who yet know next to nothing of the philosophy of pruning and have never "bothered themselves" as to the why and wherefore of much that they do. This ignorance would not be so general if only plant physiology had been made a subject at public schools and at various continuation classes. It is really a fascinating as well as instructive study, and no one teaches more plainly or better than Professor Bailey in the book under notice. The life history of trees, the formation and what leads to the production of wood and fruit-buds, showing what can be done by pruning scientifically, are points fully discussed, and then we come to the general make-up of the stems. The necessity for the expansion of bark is shown, and methods of assisting Nature in the case of bark-bound trees given, the right and wrong methods of sawing off limbs shown, those left with an old dead stump ("in memory of the pruner") presenting a sorry contrast to the cleanly cut branches with the bark slowly and gradually healing over the wound. Owners of forest trees that they would preserve as long as possible, but from which large limbs must, for some reason, be removed, ought to read what is stated upon this portion of the subject, a brief extract from which I append:—

The reader has already seen in fig. 73 the monument a man erected to his memory. It is a stump which is so long that it cannot be healed over, for, as we have seen, a leafless and branchless stump has no life in itself. The only chance for this stub to be healed in is from the activities of the trunk; but the end of it is too far removed from the base of supplies to receive much benefit therefrom. Having no vital part in the life of the tree, it is side-tracked and must starve.

Above the stub is shown a cluster of toadstool fungi which gains a foothold on numerous badly-pruned decaying trees in this country as well as in the United States.

Where should the limbs have been cut? There is an enlargement, or brace, at the base of a limb, and this bulge is usually larger the longer and more horizontal the limb. It is a common notion—which the writer, much to his humiliation, once aided to promulgate—that the cut should be made just above the bulge and at right angles to the direction of the limb. This leaves a stub as shown. The proper way, however, is to make the cut close to and perfectly even with the outline of the trunk without regard to the size of the wound, leaving no portion of the amputated or dead branch on the trunk. All parts of the wound are then in most intimate relations with the trunk which supplies the materials to be used in covering the exposed surface. The area of the wood is larger, to be sure, but this is of minor consequence, and to such large wounds it is expected that the operator will apply a dressing.

It is also worthy of note that a "heavy application of lead paint is the best all-round dressing for common pruning wounds, and this would appear to be the commonest opinion with careful orchardists."

Among other matters of a somewhat similar nature, mention is made of the best method of bracing a crotch in trees to prevent their splitting badly, as too often happens in the case of large Cedar, Mulberry, and other much valued trees. The usual practice is to support crotches and weak branches by putting bands or chains about them, these eventually throttling and ruining the branches. The correct plan is to bolt them together, passing the iron through the centre of the two limbs that are to support each other, and using large heads and nuts. If long braces are needed, then it is advisable to run short bolts through the branches, and on the inner ends to have hooks or eyes into which another rod or a chain may be secured, thus allowing for the moving of the branches by the wind. The bolts soon become buried, and no ill-effects from their presence in the wood is felt by the tree.

The remarks on "Principles of Pruning" occupy sixty pages, and the general statements, twenty in number, are an epitome in themselves. The incidentals comprised in the second half of the book commence with some specific advice as to the pruning of the tops of trees, followed by the

trimming of young plants at the roots as well as branches, and after reading this, those who have previously wondered why there should be so much difference in the condition of young tree roots as received from different sources, haphazard practices compared with those based on study and experience giving by far the most unsatisfactory roots. An idea also prevails that once the tap-roots are cleanly removed from young trees little or no further thought need be taken as to the formation of other tap-roots, but Professor Bailey asserts, and is not likely to be contradicted, that if it is the habit of a plant to develop a tap-root, it will generally do so, even after its original tap is cut, generally throwing down two or even several instead of one. In addition to the American methods of pruning Apple, Pear, Peach, Plum trees and fruit bushes generally, English practices are also given, Messrs. Cheal, Rivers, Thomson being among the authors freely quoted from and duly acknowledged. That part relating to Grape culture in the open air is equally thorough, though not of great value to us in the Old World.

W. I.

GARDEN FLORA.

PLATE 1180.

ACALYPHA SANDERIANA.

(WITH A COLOURED PLATE.*)

THIS is one of the most distinct and ornamental of the now very numerous new plants introduced by Messrs. F. Sander & Co., St. Albans. It was discovered growing near the sea in the Bismarck Archipelago by M. Micholitz when collecting in that region. He described it as a vigorous shrub 12 feet to 18 feet high with large leaves and long tail-like flower-spikes coloured bright red. It first flowered in the St. Albans nurseries in the autumn of 1896, when Mr. N. E. Brown, of Kew, named and described it in the *Gardeners' Chronicle*, calling it a very beautiful species, quite distinct from any other species in cultivation.

Most, if not all, of the *Acalyphas* are grown for their foliage, but the charm of this novelty is in its drooping female flower-spikes, which are dense and bushy, like a squirrel's tail on a small scale, and of a beautiful bright rose-madder colour, effectively contrasting with the rich green of the leaves. M. Micholitz states that it is a sun-loving shrub of strong growth, very free-flowering, and that the beautiful flower-spikes last a long time in perfection. Under cultivation the plant has exceeded the expectations formed from the collector's description, the specimens shown by Messrs. Sander at the Ghent Quinquennial and at the Temple show this year being really wonderful, whether viewed as examples of cultural skill or as decorative plants. I have seen the plant under cultivation ever since its introduction, and from its behaviour I should call it a gardener's plant *par excellence*, as it grows freely and is practically always in flower. The tails attain a length of 21 inches and the thickness of a man's thumb, whilst in colour they are of a vivid crimson, and in consistency they resemble the plush-like fabric known as chenille.

The genus *Acalypha* is a very large one, about 220 species being known. They are all tropical or sub-tropical herbs, shrubs or trees, with small flowers in axillary or terminal racemes, and in many species the sexes are on different plants, whilst in others they are on the same plant, but in separate racemes. So far only female flowers have been produced on cultivated plants of *A. Sanderiana*. The only species

* Drawn for THE GARDEN in Messrs. Sander's nursery by H. G. Moon. Lithographed and printed by J. L. Goffart.

* "The Pruning Book." By L. H. Bailey. London: Macmillan and Co., Ltd.



known to have any horticultural value beside *A. Sanderiana* are the ornamental-leaved *A. macrophylla*, *A. Wilkesiana*, *A. obovata*, *A. Macfeeana*, and others, including the new *A. Godseffiana*. In tropical gardens these plants play as important a part as the *Aucuba* does with us. They are of the easiest cultivation, and when well grown they are most effective stove plants. They have been tried as summer bedding plants in this country without success.

The cultural requirements of the plant are, briefly stated, a tropical temperature, plenty of moisture and as much sunlight as possible, avoiding actual scorching; a rich loamy soil, liberal root space, frequent syringing overhead and weekly washing of the leaves with soapy water to keep down red spider. There are plants at Kew which have been in bloom since March and are still flowering. Although new to European gardens and totally unlike all cultivated species of *Acalypha* known here, yet this plant has, as a matter of fact, been known as a garden plant in some countries in the East for nearly a hundred years. There is an excellent coloured drawing of it in the Kew herbarium dated 1812, and named *Caturus speciflorus*, which is a synonym of *Acalypha hispida*, and this is the correct name of what is here called *A. Sanderiana*. Sir Joseph Hooker says of *A. hispida* that it is only a garden plant in India, although it is included in Burmann's "*Flora Indica*" and Roxburgh's "*Flora Indica*," whilst Rumphius described and figured it under the name of *Cauda felis* (cat's-tail). It is strange that a plant which has evidently been known and cultivated in Java, India, &c., for so long should have failed to attract the notice of collectors until M. Micholitz met with it. W. W.

THE WEEK'S WORK.

OUTDOOR FRUIT.

STRAWBERRIES.—POTTING FOR FORCING.—This important matter is now upon us, and although the work in other departments may be pressing, every effort should be made to get this done during the next ten days or fortnight. Concentration of forces will help to conquer a difficulty such as this when it arises. With a small number, of course the labour involved is not so great. It is when it runs into the thousands that it becomes a serious inroad upon time and material too. Commence without delay to wash up the requisite quantity of flower-pots in order to have them ready beforehand and within easy reach. Six-inch pots I still find to answer the purpose best on the whole. For very early forcing a size smaller is in some gardens preferred, but this is often dependent upon the position for forcing, the variety employed, and other means as the locality as well as in proper preparation in the previous season. This season I intend to try some plants of *La Grosse Sucrée* in a smaller size, as I have noted that this makes but a moderate leaf growth under extra early forcing, and does not in consequence dry up so readily at the roots as I should like the plants to do. So far in my case no trial has been given to pots a size beyond the orthodox 6-inch pot, but I intend to experiment in this direction for late forcing to avoid, if possible, some of the watering during the month of May. If new pots be used, by all means see that they are well soaked beforehand; it is surprising what an amount of water they will absorb if fresh from the kiln, as they often are at this season of the year. It is somewhat of an old custom to use 8-inch pots, potting three runners into each pot, but for shelf work it is not advisable from point of weight alone. When done under this method I prefer to lift the runners when well rooted in the open ground.

PREPARING THE POTS.—Let this work also be well advanced, so as to cause no delay or the employment of labour which could be turned to a better purpose. The drainage employed should also be clean and sweet, being likewise used in a liberal manner. Just merely one crock and a few odd pieces are not enough; 1½ inches of drainage is not any too much. Over the crocks I prefer to use a light sprinkling of horn shavings or similar light material of a manurial character rather than any half-inch or crushed bones, which may possibly give trouble if in a green state. A light sprinkling of soot is highly essential; it acts as a deterrent to the worms when attempting to get into the soil, and at the same time assists the plants when becoming pot-bound. Do not use soot from the stoveholes as a makeshift, by reason of the presence of sulphur, but the best that can be got from coal fires only.

THE SOIL AND ITS PREPARATION.—It is not now a convenient season for the cutting and stacking of turf by most gardeners, but I will assume that a good reserve is on hand. In my own case the soil which I intend to use was carted in about midwinter, being the top 5 inches or 6 inches of an old and tough pasture. This was stacked in layers of turves or sods, with lime rubble and old Mushroom bed manure added alternately to each layer. As the soil is now being cut down for use, it all becomes well incorporated. Fortunately, when carted in, it was on the dry side somewhat, being now in the best possible condition for use, with the grass well decomposed. It is all-important in the storing of loam for future use to see that it is not carted in when too wet or sodden with rain. I shall add a light sprinkling of soot to this soil, but nothing else of a manurial character. Some growers may, perhaps, like to use more manure, which in due course will give a luxuriant leaf-development, but this is not everything, nor, indeed, is it to be desired for early forcing. Only when using poor loam or soil of a second-rate character would I advise the free use of manures, and even then it is better to employ an artificial rather than a natural manure, which is oftentimes of too forcing a nature by reason of the presence of a higher percentage of nitrogen. As the soil is chopped up and prepared for use it will be kept covered up should any rainfall be promising. To have the soil at all clammy, as when it adheres too freely to the hands, is not at all desirable; this indicates that the moisture is in excess. I do not advise that the soil be broken up too finely. Some even of the size of hens' eggs can easily be used. If the loam be heavy or close, with a tendency to solidify too much, then add either road grit or sand. The former will answer well, and it can usually be had for the carting.

POTTING THE PLANTS should be always done as carefully as if potting Cape or New Holland plants. The instructions I give are to pot firmly and evenly, and so long as the pots are not cracked during the potting I do not mind how firmly the work is performed. Guard against burying the crown, keeping it rather a little elevated than otherwise. Allow sufficient room for watering, a trifle more in fact than for most plants, as any short supply of water in a few weeks hence will check the growth. The work of potting is done much more expeditiously and more comfortably, too, by the use of potting sticks, as it is impossible to firmly compress the soil towards the base without such assistance. As soon as potting is done, let the plants be stood in their summer quarters and watered without delay.

POSITION FOR THE PLANTS.—Until last season I stood the plants upon a border which for a part of the day was shaded and otherwise retained too much moisture about them for too long a time. I found this encouraged mildew, to which Royal Sovereign in particular is subject. The growth that was made was vigorous enough—possibly excessive—the plants looking very well. Last year, for this reason and by force of other circumstances, a more open and breezy position was

selected, where from early morn to night every fraction of sunshine was obtainable. More attention as regards the watering was, it was true, found to be imperative, but the growth made betokened a sturdy constitution, and the after-results when forcing was on did not belie these appearances. I much prefer to stand the plants in quarters to that of single or double lines along the garden paths. It is then easy to damp them overhead after a hot day, and is otherwise more expeditious for watering. With a good bottom of ashes (cinder), which takes up largely the water from the pots and afterwards gives it off to the benefit of the plants again, there is not much to be feared from worms. As a preventive, however, against worms, it is safer to apply a dressing of lime to the ashes in advance.

VARIETIES.—These have been alluded to, and it only remains to be added that in giving a trial to fresh kinds do not enter largely into the culture of any one kind until it has been tested, otherwise valuable room and time, too, may be expended at a loss. When sorts are being added from trade sources, see that they are well watered immediately they are received and before potting takes place.

WATERING FRUIT TREES AND CROPS.—As we are now in most parts of the country passing through a period of drought, it becomes imperative to give attention to this important item of work. It is folly to allow the trees or bushes to actually suffer to a serious extent when water is at command, as in the end it nearly always involves the expenditure of more labour and of water also. If, however, the mulching was attended to as advised, a considerable amount of time will now be saved and there will be less cause for anxiety too. When watering, do it thoroughly and well; this also will be a saving in the end. I find that the serpentine spreaders now obtainable are a great saving of labour when there is a good pressure of water. All that has to be done is to keep them moved as occasion may require; one pair of hands can thus do the work of two at the least and quite as effectually. Take especial note now of all trees bearing heavy crops of fruit, such for instance as young Apple trees in the open, Pear trees on the walls (in the open the fruit is none too plentiful), and bush fruits also. Peaches and Nectarines will now be greatly benefited by a thoroughly good watering, and if need be apply a stimulus either in the form of liquid manure or of an artificial compound to meet the case. With this hot and dry weather there will be the possible danger of red spider becoming troublesome, and it will receive encouragement if there be drought at the roots. Do not now water Apricots too freely where there is any disposition to splitting; in some soils and localities this will occur, and watering now will tend to foster it. HORTUS.

KITCHEN GARDEN.

ROUTINE WORK.—The hoe should now be used freely among all growing crops. The haulm of all crops, such as Peas and Beans, as soon as gathered should be removed, and in the case of plants needed for seed only the portion required should be retained. Of late the weather has been dry, and seed beds or plants pricked out will need liberal supplies of moisture. Much better results will follow giving the moisture late in the day, and liberally instead of just watering the surface. Newly-planted Celery will require a liberal quantity of moisture; indeed, from this date the plants should never be dry at the roots. Any plants infested with the grub should be dusted over with soot after watering, or in very bad cases the leaves gone over and the portion affected removed. Marrows will now take liberal quantities of food in the way of liquid manure, and runner Beans that are podding will need water. Food also will be well repaid, and in light soils a mulch of litter or spent manure along the rows will be beneficial. Planting of all green crops should proceed apace; indeed, at this late period it will not do to wait for rain. Moisture must be given freely after planting.

ONIONS.—The spring-sown plants are much later than usual, so that feeding may yet take place. In a light soil I find soot and fish manure excellent, and given this there is no trouble with grub or disease. The food should be of a quick acting nature, and though it may be necessary in dry weather to give moisture to wash the food down to the roots the food is not lost, as the land will be in good condition for future crops, such as Cabbage or others that need a hard surface to create a sturdy growth. If desired nitrate of soda may be given, and I would advise two or three dressings at intervals of a week and if possible in showery weather. I use this at the rate of 2 cwt. to the acre. On the other hand few manures are better than liquid manure from cow sheds for growing crops at the stage named, and these may be used freely. Autumn-sown Onions are now approaching maturity, and I never remember to have seen better bulbs. These will now be benefited by having their necks bent down when fully grown to assist ripening; the white varieties are the earliest to mature. These when ripe should have as cool a store as possible. The small silver varieties used for pickling should be dried and kept free of damp, another sowing may yet be made if these small kinds are liked for special uses. Land for the autumn crop should now be got ready. An open, well-cultivated quarter is best.

CUCUMBERS.—Preparations will soon be needed for an autumn supply. I find it much best to have two lots, one for the autumn and the other to provide the winter supply. In many gardens winter Cucumbers are not grown. They are by no means profitable, but the same cannot be said of the autumn supply, which I have grown in heated frames well into December. A house is best, as in wet, unless autumns mildew is troublesome. For use at the season named I have grown Tender and True and Sion House. One of the best new kinds is Rochford's Market Favourite, but this is not so good for winter as the kinds noted. Many growers retain the summer fruiterers for autumn supplies. I do not advise it, as much better results are secured from young plants, new soil, and a clean house or pit. Plants raised now should not be fruited too freely at first. Much better secure an ample top growth and plenty of roots before taking much fruit. Treated thus there will be no difficulty in having a good supply from October to Christmas. Much the same remarks are applicable to plants grown for fruiting from December to March. I do not allow the plants to bear much till November, but lay in plenty of wood, as little is made in mid-winter. It is well to sow early in August for winter fruiting.

CUCUMBERS IN FRAMES.—Plants in frames that have been fruiting from May or earlier will now be exhausted. It will well repay the cultivator to plant at this season for an autumn crop. Frames are often empty now, and may be devoted to Cucumbers, and if heated there will be a good return. Market Favourite is an excellent frame Cucumber. Grown in frames the fruits are not always of the best shape, but for cooking it matters little, and the Cucumber is a charming addition to our autumn vegetables and grown at small cost. Under frame culture the most important detail will be to get a quick growth. To do this a couple of plants may occupy one light, one for the top, the other the lower part of the frame. Keep the plants close and warm, cover the glass at night and avoid draughts. A light rich soil will be best, with a liberal quantity of bone meal or old mortar rubble in the compost if the latter is heavy. I prefer early planting. I usually sow two seeds in a 3-inch pot and destroy the weaker plant. When the third leaf is showing I plant out.

TOMATOES IN SPRING.—These should now be sown for an early supply in the spring, and though many rely upon plants struck from cuttings, of late years I have obtained much better results from seedlings. Many may object to sowing in August for fruiting next March or April,

but it is impossible in most parts of the country to set fruits in midwinter; it thus behoves us to have plants of a fruiting size to flower at a season they will set. I find by sowing now or early in August in a cold frame, growing on as hard as possible till the end of October, the plants will early in the year grow freely and set a fair crop. With longer days the plants attain strength. I winter in low pits or shelves from October to early in the new year, when they are placed in their growing quarters, given more warmth, repotted, and grown on for fruiting. Sown now the plants may be wintered in 6-inch pots, and are fruited in 9-inch or 10-inch pots. I prefer pots to planting out, as the plants make too much leafage and the fruits do not set freely. I have plunged the 6-inch pots in soil well over the rims and got good results. There is a great gain in sowing now over sowing in November or December, as the plant, being grown as hard as possible, is sturdy and soon flowers freely. It is advisable to grow a free setter, such as Conference, Prelude, or a good form of the Old Red. Conqueror is also a good winter fruiter, but not a shapely fruit.

ENDIVE.—I briefly touched upon the value of this vegetable a few weeks ago, and I would now advise a full sowing for winter supplies. Few green crops are more useful. For winter supplies the best variety is the Improved Round Leaved Batavian. This is a very hardy variety, and when the Endive is used as a vegetable this is the best variety. The Green Curled is less hardy, but is a desirable variety for autumn supplies and salads, and where the plants can be given frame protection this variety should be largely grown. The Moss and White Curled are beautiful summer varieties, but not so suitable for autumn sowing. No matter what variety is grown, it is necessary to give good culture. I sow in land well manured, and keep the surface moist till the seedlings show through the soil. Thin sowing is a necessity, as the plants are best when lifted with a ball of earth, before they get large. If early autumn supplies are needed it is well to sow on a warm border and not transplant, merely thinning out. The thinnings will make a succession to the plants left for the earlier supplies.

MUSHROOMS.—The crop during the past three months has been obtained from beds in the open air, and so far the supply has never failed, but preparations must now be made for beds under cover. I would strongly advise those who may contemplate making a Mushroom house to avoid the old but much-followed plan of having a house at the back of glass houses heated, and with shelves or tiers one above another. Far better results are obtained in a cellar or underground structure with beds on the floor. Here Mushrooms may be grown all the year round, which is impossible in a heated dry house in the summer months. What is needed for the Mushroom is not so much heat as an equable temperature. During the past few months I have had the supply from beds under a north wall and covered with litter. Manure may now be prepared for an early autumn supply, but it requires much less drying at this time of year than in the winter months. I find it a good plan to make a bed for late summer supplies in a shed facing north, as the cooler the better, provided the rainfall can be kept clear of the beds. The Mushroom house should be thoroughly cleansed before placing new beds in the same, as woodlice and mice are most destructive. Many spawn the beds at a lower temperature than is necessary. If the heat is falling I never hesitate to spawn between 90° and 100°, and do not let the beds get too low before soiling. Another point is to secure good spawn. The cheapest is not always the best, and the best is not costly. New spawn should now be secured for this season's work, as it will run more freely and less will be needed. From now to the spring, if beds are made every month or six weeks, there will be no break in the supply. Old beds that have borne and are at all exhausted will give another crop if watered with warm water or liquid manure.

KITCHEN GARDEN.

ENEMIES OF THE ONION.

In some localities Onions are troublesome things to grow, and it may be said without exaggeration that in places where they are liable to the attacks of fly they cause more anxiety than any other outdoor crop. Those who are troubled in this way should note what was said in a recent issue respecting the destruction of the perfect insect before it has had time to lay its eggs. It seems to me that if this practice were continued over a period of years the fly would be so lessened in numbers that its attacks would cease to cause much anxiety. Soot is no doubt a good deterrent if used at the right time and in sufficient quantity, but one application will not in a general way be enough to secure immunity from the attacks of this pest. I once lived in a district where it was said to be impossible to grow Onions; no one living there had ever seen a crop of them grown from seed sown in spring in the ordinary way. It happened that a man came to live there who had all his life prided himself on his skill in the culture of this vegetable, and he determined to show the natives that it was as possible to grow Onions there as in other places naturally favourable. The soil was pure sand to a depth of several feet, with gravel at the bottom. When once this soil became dry in the summer it never seemed to get thoroughly moist until the advent of the autumn rains. It would, I think, be impossible to find a soil naturally more difficult to deal with than this. In a dripping summer, with plenty of manure, vegetable crops came off very well, but in a dry time they of course suffered terribly. In spite of these natural drawbacks, an excellent crop of Onions was obtained. The ground was of course heavily manured to a depth of 18 inches, the seed was sown as early as it was possible to get it in, and the surface was then rolled so hard that no impression could be made by the feet when treading on it. Every two or three days during the breeding season of the fly the plants were lightly dusted with soot, the ground eventually becoming thickly coated with it, so that when the sun shone the odour from it was perceptible at a good distance away. Later on the beds had two or three good soakings of liquid manure. Although the season was very hot and dry and just favourable to the Onion maggot, very little trace of this pest could be seen and the bulbs came to a good size, the crop being what would be considered good even on ground naturally favourable to Onions. It is probable that the frequent dustings with soot kept off the fly. A single application is not likely to be efficacious where severe attacks from fly are to be apprehended.

I never knew until this year that wireworm was to be feared in connection with Onion culture, but an instance has come under my notice which proves that under certain conditions this pest is much to be feared. One of my neighbours, who, like many others, grows his Onions on the same piece of ground year after year, this season gave them a change of soil. The result is simply disastrous, for 90 per cent. of the young plants are destroyed. There is no mistake as to the cause, for wireworm can be found all over the bed. It is a curious fact in connection with the culture of this vegetable that a change of ground often does bring on disastrous results. I have known cases where Onions, having been cultivated with great success for some years, utterly failed when given the change that is of such

benefit to garden crops generally. Some of the finest crops of Onions I ever saw were grown in a farmer's garden. The man made a practice of putting on a heavy dressing of farmyard manure at the beginning of the winter. Early in February, weather permitting, it was dug in deeply, the seed being sown as soon as the ground was in good working order. The young plants made such vigorous growth that the maggot, although it generally made its appearance, never seemed able to make much headway. The grower asserted that putting on the dung early in the winter was one of the principal elements of success, as it not only came into a sweeter, more friable condition by the time it was necessary to dig it in, but that the soil, through the rain washing down the nutritive particles into it, became thoroughly enriched to the depth of some 18 inches. As soon as the roots began to travel they came at once into contact with nourishment in a form just calculated to suit their tender condition, the result being that they pushed away into growth at a much more rapid rate than is the case when the manure is given in a crude state. Judging from results, one would say that this theory was fully justified, for every year thinning was absolutely necessary. For some reason it was decided to give a change of ground, and the result was startling. The same culture was pursued, but the young plants never went away freely; the grub got among them, and the crop was a total failure. The following season the seed was sown in the old place, with the usual satisfactory results. The moral would seem to be that, having once found a position in the garden where this uncertain crop will succeed, the prudent way is to always grow it there. It would seem even in gardens of moderate extent there may be just one spot, and one only, where Onions will succeed. Why this should be and why Onions should thrive so well year after year in the same place is one of those things that has never yet been explained.

In several gardens in this neighbourhood a disease has lately appeared which is new to me. I say a disease because the roots die away up to the base of the bulb, and although with the lens I can discover no living organism, I think that this kind of dry rot must be caused by some minute fungus, which an ordinary lens is not powerful enough to discover. In any case it is not a desirable addition to the list of the enemies of the Onion, and should it become common will be a formidable foe to contend with. It is not indifferent culture that brings it on, for wherever I have seen it the ground has been well worked and manured.

Byfleet.

J. CORNHILL.

New Pea Thomas Laxton.—This is not unlike Gradus, but a larger Pea, and in quality not far behind Ne Plus Ultra. With me this year it was ready with Gradus and earlier than some of the second early kinds. I am pleased with its cropping and good qualities, and feel sure it will only need a trial to become a favourite. I note it was one of three at the Royal Horticultural Society's Chiswick Gardens that received an award last week out of a good number. Here it was not so prolific as I have seen it, but there can be no doubt as to its quality. I wish it was a little dwarfier. It is a 5-feet variety. I prefer a Pea 3 feet high for earliest work. It is an easy matter to top the haulm. The newer variety will make a splendid forcing Pea, as the plant pods to the soil, many of the pods being produced in pairs.—G. WYTHES.

—This new Pea, which was recently referred to by Mr. Wythes, promises to be a grand addition to the second earlies, indeed it has with me immediately followed the earliest-sown

Springtide and Chelsea Gem, and is a week or more earlier than Dr. Maclean, sown at the same time. From its parentage, which is said to be Gradus \times Earliest of All, earliness is inherited, but the Pea partakes more of the nature of Gradus than of its other parent, the pods and Peas being large, the latter of a deep green colour and averaging eight to the pod. The haulm is robust, and with me has run to a height of 6 feet, but this no doubt is partly due to the dripping season we are getting, and which has helped Peas generally on light soils. The pods are borne singly or in pairs for the greater part of the length of the haulm, and there is every sign of its being a continuous bearer, a great merit in a Marrowfat Pea of the larger type, among which so many have only a short season. In quality and colour it is first-class, being very sweet. The stock as sent to me is well selected, and appears to be quite true to character. One hopes that this will be retained, and that the falling-off which was noticeable with Gradus a year or two after it was sent out will not be repeated.—J. C. TALLACK.

Spinach as a catch crop.—In gardens where the soil is light it is a very good plan to sow any ground which falls vacant through clearing of early crops, and which is not wanted for other things, with Spinach, odd rows of which come in useful as long as they can be allowed to remain to provide supplies, which obviates the necessity of beginning on the winter Spinach proper until it has got strong. Such catch crops do good in more ways than one. The slight preparation the surface requires kills off multitudes of seedling weeds, and the Spinach itself keeps down later weed growth, while it tends also to neatness, as nothing looks worse about a garden than to see rows of spent Peas and other things standing about the ground accompanied by the attendant weeds, which have escaped the hoe in a busy time. When no longer wanted, or when the annual digging requires to be done, the Spinach can be turned in green, and is of great benefit to the soil. In closely-cropped gardens there is seldom any opportunity for letting ground lie fallow during any part of the growing season, but it sometimes happens that a plot has to lie idle for a time or be occupied with a catch crop such as I advise, and of the two the latter is preferable. Spinach seed is cheap, and it takes but little to sow quite a large plot. Probably on heavier soil the crop taken would hardly repay for the trouble of preparing the surface, and no benefit would accrue from digging in a green crop later, but where it partakes of the nature of a sand-heap, as it does here, its value is undoubted.—J. C. T.

SUMMER LETTUCES.

THE season in many respects has been a troublesome one for Lettuces, both spring and summer. In my case the greatest inconvenience was caused by the slugs. Frequent sowings were made in the ordinary course to meet the demands, which are continuous, but in many instances they had to be repeated on the same ground without even then getting a sufficient crop. But for the frequent sowings made the supply would have fallen very short of that needed. Lime and soot, dry wood ashes and burnt refuse were applied often without much effect, so far as concerned the number of slugs and their destructive work. I cannot remember another season when there were such numbers to be dealt with and their destruction so difficult to accomplish. For the early summer cutting Commodore Nutt and Early Paris Market were most useful. The latter is a fine Lettuce, both in size, appearance and quality, but, unfortunately, in hot spells of summer weather it soon runs to seed. Commodore Nutt, though small, is a most reliable little Lettuce and one I always sow for the early supply in frames. Cos varieties for a first crop in summer come from the autumn sowings, and the winter being mild, both the Bath Brown Cos and Hicks' Hardy White developed into very fine and well-blanced heads. The latter is self-fold-

ing. A very good sort, suited to the requirements of a large household or market supply, is Sutton's Giant Cabbage. In good soil this develops a wonderful head and quite justifies its name. When matured, too, there is no loss of quality, such as sometimes comes from coarse vegetables. To get the heads full sized, the plants need plenty of room. Perfect Gam still maintains its reputation. So good was this considered last year, that I was requested to grow more of it this summer. It has a depth of colour quite its own. In the curled kinds, which are favourites with some, the old Neapolitan has a rival in New York, although the original still claims notice. These, beside being attractive in appearance, are good eating, and, unlike some of the smooth-leaved sorts, remain a long time before running to seed, which in summer is such a trouble when the weather continues dry even for a short time. In soils of a dry nature these curled sorts should be more extensively grown. They would appear, however, to need a longer time to become fully developed than the smoother and compact-growing kinds. All the Year Round is too well known to need any special notice. Like the preceding, it will stand a good deal of summer weather before running to seed. Stanstead Park is useful for the autumn.

In summer Cos, Carter's Mammoth is, as its name implies, a large, and it may be said, an excellent Lettuce, and it is self-folding. Superb Cos, selected by all seedsmen as the mainstay of the summer supply, deserves particular mention. Any list would be incomplete without it. It is needless, however, to individualise, because all are so uniformly good. The White and Green Paris Cos are grown largely by some, the latter is particularly good for sowing in summer for autumn use, when there is sometimes a difficulty with others. It has a strong constitution and grows freely when some others make but little headway.

A long list of varieties is not needed by those having only a small supply to meet. There is an advantage, too, when a kind is proved in any particular garden and found satisfactory, in standing by it. It is only under trial that the merits or demerits can be known, and apart from the educational point raised by trials, there is an interest in noting the development and the time the kinds remain fit for use, once they have arrived at a matured stage. For a small garden three or four sorts selected from the Cabbage or Cos sections, whichever finds the greater favour by those for whom they may be required, would be ample for all seasons.

For sowing now there is an advantage in having firm soil; in this there is a greater reserve of moisture for the tiny plants to utilise, but a watering of the drills or beds in the evening of warm days ensures a greater success in seed germination, and a steady progress in the plants. Where there is not the time for this, mulching the drills, after they are sown and watered, will conserve the moisture for a few days, further additions to be made as often as there is the material and the need for doing it. Transplanting is not worth the time and trouble it takes to do at this time of year. Blanks occur sometimes in seed beds simply from the absence of moisture in and about the surface soil, which is often proved after rain showers. Artificial watering will bring about the same results if followed up daily and some means taken to lessen evaporation. Slugs must not be forgotten even in dry weather.

Rood Ashton.

W. S.

Pea May Queen for autumn sowing.—Those who need an autumn supply of Peas will do well to make a sowing in July, and unless some care is taken in selection of variety the best results are not always obtained. May Queen is one of the best kinds for the purpose on account of its rapid growth, freedom from mildew, and fine marrow flavour. Though not a true marrow it is so good that no fault will be found as regards its quality. One advantage this variety possesses is its dwarf habit. May Queen will only need 2-feet

sticks and may be sown in rows 3 feet apart, and to gain time I find it well to soak the seed a short time before sowing.—S. M.

Potato Famous.—With me Famous is a failure, but this may be owing to the soil. Other kinds adjoining, such as Ringleader, Veitch's Ashleaf, and some American varieties are cropping well. I grew it last year and it was not so good as others—indeed, the crop was poor. I determined to give it another trial, and again the crop failed, so that this variety will not be grown again. I am pleased to note that it does well with "A. W." I liked this variety when it was first sent out. My best Potato this year—far before Victor as regards crop and earliness also—is Ninety-fold. I would ask "A. W." to give this a trial, and in addition to crop, the quality is good. I intend next season to plant this in quantity. Those who have a large family to supply will find it invaluable.—WEST MIDDLESEX.

Late Broccoli June Monarch.—In my note at p. 510 I did not refer to the varieties "Dorset" (p. 16) asks my opinion of concerning their lateness. This year I did not grow the two kinds he names, Latest of All and Methven's June. The latter I have grown in previous years and know to be an excellent Broccoli, but unless grown side by side it is impossible to give reliable data as to lateness. I referred to Model and Late Queen, two splendid types of late Broccoli. Both these this year were earlier than usual and I had none left for early June supply; indeed, in a light soil very few after the third week in May. I think the two kinds named, both as regards quality and lateness, the best for general culture. The popularity of Late Queen and Model will show they are appreciated, and June Monarch, being later, will be useful.—G. W.

Tomatoes outside.—The prospects for a good crop of Tomatoes on outside walls are fast disappearing, as we are now approaching the middle of July, and scarcely any fruit has commenced to swell away. The plants are healthy enough and look well, but cold nights and dull days have prevented development, and the most that one can now do will be to pinch out the leading shoots of plants earlier than usual this year and try to ripen up what few fruits may have set by the end of the first week in August. Summers like the present are disheartening to those with insufficient glass accommodation for a full supply of Tomatoes. We have here on many occasions during June and the early half of July had a minimum temperature of from 36° to 40° Fahr., and once or twice been within a degree of frost. The bigger varieties of Tomatoes will have a bad time, but as I grow very few larger ones than Conference I shall not suffer much through choosing those that take long in swelling up.—J. C. T., Suffolk.

Pea Boston Unrivalled.—After hearing and reading such favourable reports anent this Pea last year, I was induced to give it a trial this season, with the result that I find such reports were in no wise exaggerated. Two rows, each about 37 yards long, were sown with seed of this variety, the one on February 17 and the other on March 2, on a piece of deeply stirred and well manured ground. The seed germinated well, the plants grew away slowly at first, but made up for lost time as soon as the weather became warmer. The produce on the earlier row was ready for gathering on July 7, that on the other quite seven days later. Boston Unrivalled is described in seed catalogues as a heavy cropper, which is perfectly correct, for the haulm is literally hung with long broad pods, which by the way are produced in pairs, and contain from nine to ten fine Peas each. When cooked I find it to be quite as good as it looks, and the flavour is delicious. It is without doubt a first-rate Pea in every sense of the term, and one worthy of cultivation in private gardens where superior quality is desired in connection with quantity.—A. W.

Sowing Cabbage seeds.—The time has again come round for sowing one of the most important of all kitchen garden crops, for next

to the Potato I think the early spring Cabbage is the crop that will always hold its own against all competitors. Opinions vary as to how long the crop should occupy the soil, but there is no difference of opinion as to the advisability of getting spring Cabbages as early and fine as possible. In this locality I find the second or third week in July the best time to sow the seed. I do not think that better crops can be produced in any walled-in garden than are grown in the open fields on the south coast. If the soil is dry at the time of sowing the seed, draw the drills and soak them well with water, then scatter the seed thinly along the drills, draw in the dry soil, and cover the surface with mats or litter until the seed germinates. Artificial watering must be kept up as long as needed. Checks to growth are undoubtedly the most fruitful source of bolting or premature running to seed. Keep the plants growing from start to finish, and very few will fail to make good heads, especially if such as Ellam's Early, Wheeler's Imperial, Nonpareil, or Rainham are grown. Such kinds as Enfield Market, that grow into double the size of these, can hardly be classed with the early spring Cabbages, but do well for succession.—J. G., Gosport.

Parsnips and Carrots.—Both these vegetables seem to be severely attacked with



A seedling Amaryllis.

maggot in various places. It is strange that Onions which were so seriously injured by maggot a few years since have done so well, and do not seem to have been attacked in any way. Carrots have not suffered appreciably for several seasons. Parsnips are rarely attacked by grubs preying upon the roots, but this year I hear many complaints of the roots being perforated as those of Carrots are. Parsnip leaves show evidence of the leaf grub in a remarkable degree. Of course, by pinching, many of these pests may be destroyed, but generally a very large brown spot is manifest on leaves ere attention is drawn to them. Dressings with soot or other nauseous compounds are then too late. The time to apply these to both Parsnips and Carrots is when the plants are quite young and ere the fly deposits its eggs. Probably there is no better means of checking the depredations of the maggot at the roots than by giving rather strong waterings of soot in solution. I have noticed that both these root vegetables seem to be worse attacked when on soil that has been manured with cow-shed and pig-stye products. Those whose Parsnips are suffering from an attack of the leaf grub and find it is too late to apply a remedy will do well so far as possible to kill the grub either by pinching it or else by picking off

the injured portion of the leaf and burning it. Any course that destroys the grub so far tends to prevent the infliction of further injury next year. It is fair to say that in every case of superior cultivation, deep-worked, well manured, and early thinned breadths, the attacks of grubs are least in evidence.—A. D.

STOVE AND GREENHOUSE.

SEEDLING AMARYLLISES.

NEARLY all the plants usually met with in gardens under the name of Amaryllis belong to the genus Hippeastrum, but they have been so long known and have attained their popularity as Amaryllises, that such they are in a general way likely to remain. For some years they have now been growing steadily in popular favour, and a few of our nurserymen and private gardeners, too, make quite a speciality of them. Messrs. Veitch have been identified with the culture and improvement of the Amaryllis for years, and one of the finest features of their establishment is the Amaryllis display during the early spring months.

Messrs. Kelway, of Langport, too, are large raisers, their speciality being a hardier section of this beautiful class of plants than is generally grown, while at the last exhibition at Ghent Messrs. R. P. Ker and Son, of Liverpool, were first in the competitive classes, in which, however, they were, I believe, the only English exhibitors.

Of private gardens the name of Weston-birt has been long identified with the culture of the Amaryllis, and Mr. Chapman has raised numerous beautiful varieties. The members of this genus are readily increased by means of seed, and large numbers are obtained in this way. This is doubtless to a certain extent owing to the fact that crossing is readily carried out and the seed does not take long to ripen, while if sown at once, thrifty little plants quickly make their appearance. Thus, there is soon a show for one's trouble, but for the flowering it is necessary to wait for years. As with the raising of other plants there is always the pleasure of anticipation, and though the seedlings may not be superior to existing varieties, yet they are all good decorative plants, none the less useful because they do not exactly conform to an ideal flower. The seed ripens about the latter

part of July or in August, and if sown at once it quickly germinates, whereas if kept till the spring, the results are by no means so certain. The seed may be sown in pots or shallow pans, these latter being the more convenient. A suitable compost consists of equal parts of good yellow loam and well-decayed leaf-mould, the whole being passed through a sieve with half an inch mesh. To this must be added a fair sprinkling of rough silver sand, which should be thoroughly incorporated with the rest of the soil. The pots or pans must be well drained and filled to within half an inch or less of the rim with this compost. At one time I used to scatter the seeds on the surface of the soil and then lightly cover them with a sprinkling of the same compost, but I was advised to insert each seed edgewise into the soil, which was left fairly light to facilitate the operation. After trying it for some years, it is, I think, on the whole the better plan, particularly if the seed has been kept for some time, as an excess of moisture is in this way guarded against. By some the seed is sown pretty thickly, the seedlings being pricked off as soon as the young

plants are large enough to handle, but where room is available the better way is to place the seeds in the pans at a sufficient distance from each other to allow the young plants to develop a couple of leaves or so before it is necessary to disturb them, and then they may be potted off into thumb pots, that is to say, small pots about 2½ inches in diameter. For this potting the same kind of compost may be used as that in which the seeds have been sown. If the seed is sown as soon as ripe and placed in the stove, the young plants will be sufficiently advanced to pot them off early in the autumn, when they should be again returned to a light position in the same structure and kept in a growing state throughout the winter, for it is not necessary to rest them at that period, as is done in the case of old-established plants, and indeed it is now pretty generally agreed that the better way is not to rest them till the autumn of the second year, by which time they will be good established plants in pots 5 inches and 6 inches in diameter. They may be rested altogether in a cooler structure than that in which they have been grown previously, and if dry and in good condition, a minimum temperature of 50° will suit them well. If the plants have made satisfactory progress, the strongest may be expected to flower in about two and a half years from the sowing of the seed, but most of them will be a year later than this; in fact, those that flower early will often improve as they gain strength. By some the seedlings are planted out in a prepared bed in a house or warm pit, and where large quantities are grown, a good deal of trouble is saved by treating them in this manner, but in many places there are no facilities for this, when, of course, pot culture is the more convenient. It also possesses this advantage, that any particularly choice forms can receive special attention. When grown in a mixed collection of plants, mealy bug must be jealously guarded against, as should it effect a lodgment on the bulbs it can scarcely ever be eradicated. The beautiful race of *Amaryllis* that we now possess has resulted from the crossing and intercrossing of many distinct species and the numerous hybrids raised therefrom. H. P.

Tecoma jasminoides.—For cool houses and conservatories, corridors, and similar places this makes a free-flowering and fine climber, the pretty *Dipladenia*-like flowers, hanging in profusion, making a fine show during the summer. A plant of it in the conservatory at Livermere is very beautiful just now, the long shoots wreathed with flowers, some fully open and hundreds to follow. *T. jasminoides* is an easily grown plant, thriving in any good soil, rooting freely from cuttings of half-ripened wood, and soon growing into nice plants. It is an old introduction from Australia, the flowers white, with purple rose in the throat.

Lavatera arborea variegata.—This was recently shown in good condition at the Drill Hall, and, judging by remarks then overheard, it was by some at least regarded as a new plant. This is, however, far from being the case, as it received a first-class certificate in the South Kensington days of the Royal Horticultural Society, viz., on May 23, 1882. It was exhibited by Mr. T. Smith, Lydney Park, Gloucester, with whom, I believe, it originated, and was distributed by Mr. Bull, of Chelsea, as one of his new plants in the spring of 1883. This variegated Tree Mallow comes true from seed, but, like some other subjects that can be so increased, the young plants at first show but little signs of variegation, but as they develop it becomes very pronounced. It should not be too liberally treated, otherwise the growth becomes very coarse, and the variega-

tion is not so effective as if its vigour is partially restricted.—H. P.

Two good Ivy-leaved Pelargoniums.—Many additions have been made to this class of Pelargoniums within recent years, and two of the very best are *Souvenir de Charles Turner* and *Beauty of Castle Hill*, both raised by the late Mr. Robert Owen, of Maidenhead, who also obtained some other good varieties. The most generally cultivated of the two is *Souvenir de Charles Turner*, a very large flower of a rich deep pink, feathered in the upper petals with maroon. For all purposes it is a splendid variety, and is in some places grown by thousands. *Beauty of Castle Hill* is a good deal in the same way, but the flowers are of a soft rose tint. An older variety, *Mme. Crousse*, is still extensively grown for windows, balconies, and similar positions. In all of the above-mentioned the flowers are double. A good white-flowered variety is still to be desired, for none of those that I am acquainted with exactly fulfil these conditions. *Jeanne d'Arc*, white, suffused with lavender, is good, and *Merimee* (raised by M. Lemoine) is almost pure white, but feathered with dark crimson.—H. P.

THE BERMUDA BUTTERCUP.

The Bermuda Buttercup (*Oxalis cernua*) is one of the best of greenhouse Oxalises, and for freedom of flowering is hardly beaten by any other plant. Those who have only seen it in the semi-starved condition in which it is too commonly met can hardly realise its possibilities when given a little generous treatment. The bulbs are so small that they are generally crowded in the pots used, and starve each other. I find that one bulb in a 4-inch or three in a 6-inch pot is quite enough, and they will pay for even more room than this, if bigger sized pots are not objected to. Unlike many other bulbous plants they may be transferred to bigger pots while in full growth, so that there is no need to over-pot in the first instance, the better way being to look out the most likely plants and pot them on in spring before many of the flower spikes are thrown up. The first potting should take place in the autumn when the bulbs are dormant, treating them for the time being in the same way as Hyacinths are usually treated, care being taken to bring them to the light when the first signs of growth appear, and from that time ordinary greenhouse treatment may be given, or they may be forwarded by standing the pots in a light position in a vinery or Peach house just started. The little heat thus given will make a difference of a month or so in the flowering. A sandy and porous soil with manure or leaf mould added suits the plants, and in such soil manure water may be given freely. This will help to lengthen the stems and give size to the flowers. Many-flowered umbels of soft clear yellow sweetly-scented flowers are borne on stems from 12 inches to 18 inches long, and if care is taken not to let the plants become drawn the stems are strong and self-supporting, being then very useful for cutting, as the flowers last well in water. The bulbs may be bought cheaply enough from the Dutch growers who supply most of the demand for them in this country, but home-grown bulbs are just as good when once the stock has been obtained, if they are well grown and properly ripened. As the plant is not hardy in England there is no fear of its developing into a pest, as it has done in its native place, Cape of Good Hope, and along the shores of the Mediterranean, where, since its introduction, its spread has been quite wonderful, especially in a plant which forms no seed. There is a double form the flowers of which are fully double and large, but it has not the beauty of the single one.

J. C. TALLACK.

Crassula jasminea.—This forms a freely branched, dense growing plant, and in late spring or early summer every shoot is terminated by a cluster of white Jasmine-like flowers. Though

white when first expanded, the flowers after a time become suffused with red. They are of a somewhat thick waxy texture and remain fresh for a long time—that is, if in a greenhouse temperature and shaded during hot sunshine. It is easily increased either by cuttings or division, and all that the plants require is ordinary greenhouse treatment. Like most members of the genus, care must be taken not to over-water the plants, especially during the winter months. A soil principally composed of loam, with some well decayed manure and sand, will suit this *Crassula* well. It is a native of the Cape of Good Hope, from whence it was introduced in 1815.—T.

A good light-flowered Pelargonium.—In the case of Pelargoniums, as with all other plants, flowers of a decided tint are more popular than those in which the colours are less clearly defined, and varieties with white blossoms are always admired. Messrs. Hayes, of Edmonton, have been for so many years closely identified with the culture of the decorative section of Pelargoniums, that one originating from that establishment, and bearing the name of a member of the family, is sure to be of considerable merit, and the variety in question is no exception to the rule. It originated, I believe, as a sport from the well-known market variety *Dorothy*, of which in its desirable habit and freedom of blooming it is a counterpart. In colour, however, it differs widely, the flowers of Miss Alice Hayes being of a pure white with a clearly defined blotch and feathering of bright lake on the two upper petals. The edges of the petals are prettily crisped. As some of the most beautiful among the white-flowered kinds are of rather weak constitution, this variety, owing to its vigour and ample foliage, combined with the chaste and delicate character of its blossoms, should ere long become very popular.—H. P.

Metrosideros floribunda.—This New Holland plant is far better known by the above name than that of *Callistemon Salignus*, under which head it is now, I believe, included. It is one of the finest of the Bottle Brush plants, a name by which several different members of the Myrtle order are known, owing to the fact that the flowers are crowded together for some distance quite round the shoot, and as in common with many of their allies the most conspicuous feature of the inflorescence consists in the long prominent stamens, the entire mass greatly resembling a bottle brush, which, in many instances, is brilliantly coloured. When propagated from cuttings, this species will flower freely when little more than a couple of feet high and in a pot from 6 inches to 8 inches in diameter. It is, however, as a bush from 5 feet to 6 feet high and as much through that this *Metrosideros* is seen at its very best, as it is a most brilliant object when in bloom, and a succession of these showy brushes is kept up for some time. Its cultural requirements are simple, as it will succeed perfectly in a mixture of peat, loam, and sand if given ordinary greenhouse treatment. An excess of shading is detrimental to the production of blossoms, though the display lasts longer if they are shaded when open. As simple protection from frost is all that is necessary to its well-doing, this *Metrosideros* may with advantage be placed outside during the summer.—H. P.

NOTES AND QUESTIONS.—STOVE.

Begonia Gloire de Lorraine.—This makes a charming basket plant, its shoots falling down over the sides of the basket. As the flowering shoots decay they can be removed, and others will take their place. It will go on flowering until the latter end of November.—R. D.

Hydrangea Hortensia.—There are now some fine specimens of this useful old plant at Livermere, one especially good piece carrying a large number of magnificent flower-heads. It is easy enough to grow a large plant of this species, but, as a rule, though plenty of heads are produced, they are small, but these are remarkably good in

every way. It makes a capital plant for conservatory decoration, lasting a long time in good condition.

Streptocarpus Wendlandi.—I can confirm "J. C. T.'s" remarks respecting the improved appearance of this species when the plants are massed instead of being potted singly. I was at once struck by the handsome specimens, which gain greatly by contrast with the one-sided looking things the single plants are. The long season over which these *Streptocarpus* flower is a great point in their favour, the amount of bloom produced being remarkable. "J. C. T." is singularly successful with the white forms, which in many places are not conspicuously good. The plants are always full of flowers, and the strain being especially good, they must be very useful for cutting.

ORCHARD AND FRUIT GARDEN.

APPLE THE SANDRINGHAM.

THIS is an excellent solid, white-fleshed, late Apple that is not too well known. It is valuable for cooking from November onward to the end of March, and its good flavour and juicy, tender flesh make it when fully ripe a very refreshing dessert Apple when juicy Apples are scarce. I find it an excellent cropper, and young trees on the Crab stock bear freely in about five years from the graft. It has an excellent habit of growth, rather inclined to upright, and fairly strong, though not gross. Grown as a garden tree on the Paradise stock it bears very large fruits, but on orchard trees it is large enough for most purposes and well above the average size of Apples. One of the handsomest of fruits as to shape, it is sometimes seen rather deficient in colour, but as grown here there is nothing to complain of in that respect, as the fruits are mostly quite high coloured, of a deep purple-red hue on the exposed parts, and green, changing to yellow, at the base and on the sheltered side. A striking characteristic of this Apple is the heavy bloom with which the fruits are covered, and they are also thickly speckled all over with tiny dots, as shown in the illustration, which gives a truthful idea of the variety. J. C. TALLACK.

LEAF-CURL IN PEACH TREES.

CAN you tell me of any cure for leaf-curl in Peach and Nectarine trees, or management by which this disease can be prevented? The trees are on a south wall in a midland county, no protection is given, soil rich loam. The disease has only given trouble of late years, but now infects both old and young trees and every kind.—K.

* * Blister or leaf-curl on Peach and Nectarine trees is caused by a fungus known as *Exoascus deformans*, and it is very prevalent this season, points of young shoots as well as the leaves being affected—badly in some instances. Although of an infectious nature, it is powerless against trees growing under glass, even if these were moved from an open wall in the autumn after a bad attack in the spring. Nor are trees so liable to it the first season after they have been transplanted from a house to an open wall as they are in after years. Spraying with strong fungicides is sometimes recommended as a preventive, and if tried, this should be done once before the buds burst and again soon after the fruit is set, but more harm than good may result unless the greatest judgment is exercised in the matter. Cold winds are largely responsible for the mischief done, and the best protected trees are the least affected by leaf-curl. Peach walls ought to be furnished with glazed copings and an arrangement of blinds and cords, using these on cold days as well as nights to ward off cutting winds. Thus care-

fully protected there will be very few blistered leaves, and the trees pay well for the outlay and trouble taken with them. I have a number of young trees in pots for forcing. They are arranged in an exposed position in a large bed, and it is worthy of note that only the rows of trees on the north and east sides are affected by leaf-curl. All the curled leaves should be kept gathered and destroyed and the swollen ends of shoots cut away. If this is done in good time, fresh growths develop quickly and mature sufficiently to flower freely the next spring.—W. I.

Apple Irish Peach.—Those who value really first-class dessert Apples can hardly afford to be without this, though it is claimed for Lady Sudeley that it beats the older variety in every way, but I find both valuable and the piquant flavour of Irish Peach much liked. I grant that Lady Sudeley is a better grower and cropper, but the flavour, if equal, is not the same. As regards cropping, Irish Peach is satisfactory if allowed to have its head, but will bear little or no fruit when close pruned, as its habit is to bear at the extreme points of the shoots, and these must not be cut back if fruit is expected. The fruits have a tendency to cracking on some soils, and it is rare to find a tree on which all the fruits escape this defect. The flesh is tender and strongly aromatic,



Apple The Sandringham. From a photograph sent by Mr. J. C. Tallack, Livermere Park, Bury St. Edmunds.

and the fruits are never better than when gathered fresh from the tree as they ripen in August.—J. C. T.

Strawberry Sir C. Napier.—When this is grown on a soil suitable to it I consider it a most useful kind. This was brought forcibly to my notice at the end of June when looking over the Strawberry quarter in the gardens at Dillington Park, near Ilminster. The soil here is a sandy loam, just adapted to this fine old kind. The gardener, Mr. Miles, showed me several long rows of plants which he put out early last September from runners layered into pots. They had grown magnificently and had an enormous crop of fruit on them. Although several other kinds are grown (including Royal Sovereign, which is thought highly of), Sir C. Napier claimed a foremost place. Some object to this kind, being somewhat acid. Personally, I appreciate it on this account. I well remember this doing grandly at Hedsor Park, in Buckinghamshire, both in the open and in pots for forcing, some thirty years ago. I am trying it in this garden, although I am afraid it will not succeed, as the soil, I fear, is too heavy. It travels well and is much lighter

in colour than many kinds, and, being somewhat late, is good for growing on west or east borders.—DORSET.

NOTES ON APPLES.

IT is difficult to account for the haste apparent in some places to get the summer pruning done. Harm in many cases follows not only by doing it too early, but by cutting the breast wood too hard in. Looking through a medium-sized garden the last week in June, I found that all the espalier Apples had been pinched in, or rather clipped in, and many of the shoots have only about three or four leaves at the base. As the season of free growth is certainly not more than half gone, a great many of these shoots will start again, and probably the number of eyes to prune back to in winter will be very small. With such treatment as this, espalier training, which is by no means satisfactory at best, becomes perfectly useless; the trees would be better left to run entirely wild. The only parts of such trees likely to bear any fruit next season are the leading shoots where extension is going on, but in the case of trees that have filled their space the chance of a crop is indeed remote. Had the shoots, instead of being cut hard back, been pinched, it would have had the effect of strengthening and swelling up the back eyes, all resulting sub-lateral growth being pinched to the first leaf to allow free ingress of air and light. Unless attention is given to this sub-lateral growth, summer pruning had far better be left alone altogether, for, no matter how far the spray would grow by the end of the year, it would keep out less light from the back eyes and leaves than would the thicket of young shoots caused by a glut of this. The trees here were badly infested in the earlier part of the season by blight of various kinds, but the heavy rains have washed off the greater part and both fruit and trees now look clean.

As I anticipated, the very dry winter, followed by one of the heaviest crops of blossom for years, has not been followed by anything like a full crop, the Apples forming and swelling slightly in immense numbers, but the trees apparently lacking the vigour to bring them to perfection, the consequence being that they have dropped wholesale. Old and partially worn-out trees, as may be expected, are by far the worst, but in a degree the same thing is apparent in young, vigorous trees.

King of the Pippins, one of the surest croppers here, is almost bare this season, while Peasgood's Nonsuch is carrying an immense crop, and young standard and pyramid trees will have to be thinned freely. As far as possible all trees on the grass here were mulched with good farmyard manure, and this with, of course, a double object in view. So far it has not been needed as a protection from the rays of the sun, but as a manurial agent its value is apparent in the deep, healthy green of the foliage and stems, which, so far from being gross, are quite solid and brown already on their lower parts. Many of the bush and pyramid trees here have had practically no pruning since they were planted, and the stubby shoots are all in favour of this. It is necessary to so thin the growth that sun and air can reach every part of the tree, and the earlier in autumn or late summer this is done the better, as the trees then receive no check, while, should small shoots appear, these may easily be rubbed off. Even now if there are any shoots not bearing fruit that are wanted

out of the way they may be cut out, and the probability is no sign of growth will appear, as trees allowed their head and not cut about have plenty of outlet for the sap.

Hand-picking now of all fruits attacked by the Codlin moth and the removal to the garden smother of all affected fruits that have dropped will greatly lessen the numbers of this pest, and if a boy can be spared for the work the time spent is well repaid.

Ripe Strawberries by post.—Few fruits travel so badly as Strawberries, no matter how carefully packed. Many growers send forced Strawberries by post, but the fruits do not always give satisfaction. Far better send by rail, as I find fruit sent thus arrives in good condition. I recently sent some Strawberries by rail nearly 300 miles. These arrived in excellent condition, whereas some of the same variety sent 20 miles by post and packed with equal care were quite smashed. I should never have sent them thus had it not been wished. Much depends upon the packing, but much more upon the treatment the boxes receive in transit. I never send over-ripe fruit by post.—S. M.

JUNE IN SOUTH DEVON.

ALTHOUGH May was backward, the frequent showers that fell towards the end of that month and during the early days of June entitled the latter to lay claim to the appellation of "leafy June." What struck one in the leafage of the midsummer month was its spring-like freshness, despite its abundance. The tint of May was wedded to the plenty of June. Wherever one turns the landscape discloses lovely pictures. On a swelling hill the Poppies stain with crimson a field of green wheat. Along the river banks and in the wooded glades, among the growing Bracken, in rosy regiments stand the Foxgloves' spires. The straggling hedgerows of the lanes are wreathed with festoons of Dog Roses, white, flesh colour, and shell-pink. On placid brown waters, fringed by the sword leaves of the yellow Water Flags, the yellow Water Lilies float, while from the hanging bank, where a sleepy current joins the slow tide, the gold of the Marsh Marigold shines and glitters, doubled in the dark mirror beneath a colour-symphony of brown, green, and gold. By the seashore, looking inward from the wet sands, that the ebbing waves leave with reluctant murmurs, spaces of soft colour intervene amid the grey of the pebbles, for here the Sea Pinks are blossoming in their thousands, while further inland the blue-green foliage of the yellow Horned Poppy meets the eye. The air is full of scents from meadow and garden; the perfume of the Bean fields floats afar, calling to mind the charming "Bee Song," which the honey-bees

Sang softly as they wrought,
Telling of close and garden plot
To the queen bee that knew them not;

and of the bee that had laboured in such a field and who sang—

I thrice have filled my honey-sack
Among Bean blossoms white and black.

The hedgerows here and there are spangled with Woodruff, with its faint scent of new-mown hay, and ere the month has waned the hay itself is down and permits no rival odour to live in its "sphere of influence." The Honeysuckle, too, is blossoming profusely, and near at hand a tall Fir is garlanded 30 feet high with its perfumed mantle.

In the flower garden *Achillea ptarmica* fl.-pl. The Pearl is white with its small double rosettes, and the tall Monkshood (*Aconitum Napellus*) is blossoming by the waterside, while the light blue of *Agathaea celestis* shows itself in many a border, the plants having lived unharmed through the winter in the majority of cases. The hybrid *Aquilegas* during the early part of the month

were a lovely sight, with their delicate gradations of tint and graceful form, those bearing the long outward curving spurs being especially effective in the latter respect. A breadth of the yellow *A. chrysanth* has also been a fair sight, and I noticed a plant of the beautiful *A. Stuarti* in bloom early in June. *Allium roseum*, when massed in the rock garden, proved very decorative, and now, late in the month, the *Alstroemerias* are a wondrous sight. The hybrid varieties certainly bear the palm for ornamental effect, and masses 2 yards and 3 yards in length and half as much in breadth in full flower, the blossoms ranging in hue from crimson, through rose, pink and flesh colour to cream, with a faint suspicion of orange pervading the sheet of delicate colour gradations, are the admiration of all beholders. In the south-west these beautiful plants grow rampantly, many of the flower-heads considerably exceeding a height of 3 feet, while a few of the tallest attain a stature of over 4 feet. They grow so thickly that they have to be divided every two years, and even the first year after division show unbroken sheets of blossom. *A. aurantiaca*, which even exceeds the hybrid variety in height, is not nearly so attractive in appearance, and the beautiful Lily of the Incas (*A. pelegrina alba*) seems less easy of cultivation, as it has disappeared from my garden, though I have seen it flowering well during the past week. The elegant *Anthericum*, *St. Bruno's Lily* (*A. liliastrum*), and its larger form, which is a very distinct advance upon the type and a valuable garden plant, as well as *St. Bernard's Lily* (*A. liliago*) have been blossoming freely, while the deep blue of *Anchusa italica* is conspicuous among the coarser growing herbaceous subjects, while in sheltered situations *A. capensis*, with its larger flowers, is very effective. The white *Antirrhinum*, many large bushes of which have survived the winter, are in fine bloom, and of the Sea Pinks, *Armeria bracteata rosea* and *A. speciosa* are bright with flower. The Cape Pondweed (*Aponogeton distachyon*) is bearing the white Hawthorn-scented blossoms on many a still pool of ornamental water, round which the *Arum* Lilies were crowded with snowy spathes throughout the month. The quaint *Astrantia maxima* has commenced to bloom, and in shady spots there is a colour still on the *Aubrietias*. At Kingswear, on the banks of the Dart, the great bushes of golden yellow *Calceolarias*, some of them 6 feet in diameter, were sheets of brilliant blossom; there, in light, shaly soil, the reverse of that usually considered requisite for *Calceolarias*, they remain unharmed winter after winter and assume giant proportions, as does *Fuchsia Riccartoni*, which, if permitted, will form trees 10 feet and more in height. Some of the *Mariposa* Lilies (*Calochortus*) have been very lovely, especially those of the *venustus* section.

Many of the *Campanulas* have been brightening the garden with their flowers. Of the border varieties, *C. glomerata*, with its purple blossoms, was at its best in the early days of the month, followed by *C. grandis* and its white variety, *C. persicifolia*, *C. p. alba* and the latter's larger form, entitled *grandiflora*, the double white Peach-leaved Bellflower (*C. p. alba plena*), the purple and white forms of *C. latifolia* and *Canterbury Bells* (*C. Medium*), diverse in colour and in the shape of their flowers, while in the rock garden many dwarf varieties were blossoming, among which were *C. caespitosa*, *C. carpatia*, *C. pulla* and *C. Portenschlagiana*. In some gardens *Carnations* have come into good bloom, but in most cases the old plants look in poor health, and doubtless, to attain the best results, new plants should be raised yearly and fresh ground devoted to their culture. The blue Cornflower is in evidence on all sides, self-sown seedlings having formed large bushy plants where they have been allowed room, while *Centaurea rubra* and *C. macrocephala* are also in bloom. The railway embankments and cliff ledges are in many places bright with *Valerian* (*Centranthus ruber*) pink, white and red, the white stars of *Cerastiums* have thickly covered stone edging and rockwork, while the

blue-flowered *Convolvulus mauritanicus* and the silvery-leaved *C. Cneorum*, its white blossoms suffused with a pink flush, have been very attractive during the sunny hours, and the bright gold of *Coreopsis grandiflora* is daily becoming more apparent in the border. The tall *Delphiniums* lift their stately spires of bloom on high, the single pale blue varieties being most effective in the garden. Where these plants are well grown in deep, rich soil and well looked after in the matter of watering, they produce a grand display, many of the plants throwing up fifty or more flower-heads, some of which reach a height of 8 feet, while they are so long-suffering, that they bear neglect and drought with greater equanimity than the majority of the denizens of the herbaceous border, although under such circumstances they give but a hint of the decorative possibilities which they are capable of producing under more generous treatment. The scarlet *D. nudicaule* is a pretty flower, which, however, appears more at home in light soil in the lower situations of the rock garden than in the ordinary herbaceous border. The *Dittany* (*Dictamnus Fraxinella*) and its white variety have been in profuse bloom, and the crimson flowers of *Dianthus Napoleon III.* glow in vivid patches of colour, while a few golden stars still remain on the clumps of *Doronicum plantagineum excelsum* Harpur-Crewe, that at the commencement of June were a blaze of yellow. The velvet flowers of the *Edelweiss* (*Gnaphalium leontopodium*) are at their best in rock gardens, and the Mexican Daisy (*Erigeron mucronatus*) is covered with its simple blossoms. This plant seeds itself freely in many gardens, and in one that I lately visited hundreds of self-sown plants were blossoming along the top of an old wall and in the interstices of the stones of its perpendicular face. The long-flowering *E. speciosus*, perhaps more generally known under the title of *Stenactis speciosa*, has expanded its mauve, yellow-centred stars, and the Sea Hollies (*Eryngium*) have produced their quaint flower-heads amid the spreading bracts and leaves of steely blue. Very beautiful is the metallic lustre of these in the best varieties, of which *E. amethystinum*, *E. Bourgati*, and *E. Oliverianum* are of especial merit. In the early part of the month *Erysimum Perofiskianum* gave a most brilliant display with its bright orange blossoms, a colour that even the deepest-tinted *Eschscholtzias* now in bloom scarcely rival. Naturalised in the wild garden, the white Foxgloves with their tall bloom-spikes, whose flowers the burly humble bees ceaselessly rifle, make a delightful picture, while from the broad leafage of the *Plantain* Lilies (*Funkia*) the flower-stems rise, strung with drooping, pale-tinted blossoms. *F. Sieboldi*, with its bold cordate foliage of glaucous green, is a remarkably handsome plant, and valuable for associating with sub-tropical subjects. The early *Gladioli* were very decorative at the commencement of the month, and in some gardens where the soil is light, *G. Colvillei* The Bride increases at a prodigious rate; indeed, as rapidly as do the *Montbretias* in the same locality. Where The Bride shows itself so vigorous, the other early kinds, such as *Blushing Bride*, *delicatissima*, *Salmon Queen*, and others, the prices of which still remain high, should be tried. The *Gailardias* are bright in their livery of crimson and gold, and in the sunshine the orange of the *Gazanias* blazes. *Geum coccineum* is producing its bright crimson flowers, the double variety being far more lasting than the single, while the blossoms of *G. montanum* are succeeded by the feathery seed-vessels. Many of the *Geraniums* are in flower, amongst which are *G. argenteum*, *G. sanguineum*, and the delicately pencilled *G. striatum*. Of the Day Lilies, *Hemerocallis flava*, with its scented yellow blossoms, was the first to flower, followed by the stronger growing *H. fulva* with its blossoms of tawny orange. During the opening days of June, the Sun Roses in the morning hours clothed spaces of the rock gardens with a mantle of flowers, crimson and white, pink and golden, while the coral-red flower-sprays of *Heuchera sanguinea* stood in graceful companies

Hypericum Moserianum has also been blossoming, as has the common St. John's Wort (*H. calycinum*), while of the *Inulas*, *I. glandulosa* has produced its orange, narrow-rayed star flowers in number, and the coarse-growing *I. Helenium* in the wild garden has followed suit. *Telekia speciosa*, a plant very similar in appearance to the last named, is also better suited to the wild garden than to the border.

June was richer than usual in the matter of Irises, the ungenial weather of April and May having retarded the flowering of the earlier sections; thus the Spanish as well as English Irises were this year both June flowerers. In heavy, damp ground both these sections disappear after a few years unless planted in a position where there is ample drainage, such as above a retaining wall of rockery. Of the Spanish Irises (*I. Xiphium*), Golden King, orange, Snow Queen, white, Canary Bird, bright yellow, and Celestial, blue, are hard to beat in their respective colours, but in the English section (*I. xiphoides*) there appear to be many named varieties of equal merit in the different colours, dark blue, white and pale French grey, but of the claret-purple, Leon Tolstoi is probably the best. *Iris sibirica* has bloomed well, as have some of the German Flags, while I have seen *I. Kämpferi* flowering finely, though my own plants have been destroyed by water rats. The tall *I. orientalis*, or ochroleuca, *I. Monnieri*, and *I. aurea* are now in flower and very handsome they are. From their similarity of growth it is difficult, if not impossible, to distinguish them apart when not in flower. This year I have again seen *Jaborosa integrifolia* blooming in a warm, sheltered border. *Lavatera trimestris*, in its three colours, white, pink, and crimson, is already very ornamental, and in a shaded bed the Lilies of the Valley lasted until well into the month. In the Lily bed, *L. pyrenaicum*, usually expanding its blossoms in May, did not come into bloom until June, followed by *L. davuricum*, varieties of *L. Thunbergianum*, *L. tenuifolium*, with its light scarlet flowers, *L. Martagon* and its pretty white variety, *L. M. album*, *L. pardalinum*, and now *L. croceum*, *L. excelsum*, and the Madonna Lily. The last, I have noticed, is suffering from the disease in some gardens, but I see no signs of it in the cottage gardens, and my own plants appear quite healthy. The finest plants I have seen this year are growing in a group on a sloping bank of light soil, where they have been untouched for several years. Some of these are 6 feet in height and are flowering grandly. *L. giganteum* is not flowering with me this year, but I have seen several plants coming into bloom. Where Marliac's Water Lilies are grown they are now very beautiful, the light yellow *N. M. Chromatella* being especially lovely. Herbaceous Lupines have blossomed profusely, as have the Tree Lupines, which, when they have grown into large specimens 6 feet or 8 feet high and as much through, and are covered with their pale yellow flower-clusters, are most handsome objects, while the less common white variety is still more attractive. Unfortunately, when these plants reach a large size, as they do in a surprisingly short space of time, they usually die, sometimes, seemingly, without cause. *Libertia grandiflora* has been in profuse bloom. Where it takes kindly to the soil it makes a most effective plant. Lately I saw in Dorsetshire a great number of plants in full bloom many of which exceeded 4 feet in height. The yellow *Linum flavum* is a bright spot in the garden, while *Linum narbonne*, bearing its light blue flowers on tall slender stems, creates a pretty colour effect. In sunny, dry gardens *Lithospermum prostratum* is a mass of deep blue, while of the garden Campions, *Lychnis Viscaria splendens* fl.-pl. displays its showy flowers, and *L. vespertina alba plena* is also in bloom, but the scarlet *L. chalcidonica* had not an expanded blossom on Midsummer Day, and barely qualified to be included in the list of June flowerers. The white Musk Mallow (*Malva moschata*) is now in flower. Its name suggests a far more powerful perfume than the faint scent emitted by its flowers. Very

different in this respect is the unattractive-looking Night-scented Stock (*Mathiola bicornis*), whose fragrance when the gathering twilight has cooled the air is of delicious sweetness. It is too inconspicuous a flower to be otherwise than rare in gardens, but is well worth growing by all who love sweet odours. The *Mesembryanthemums* at Kingswear were a gorgeous spectacle at mid-summer, all the varieties tried succeeding admirably. Crimson, scarlet, rose, orange, yellow and white are all represented, the scarlet *M. amœnum* being the most vivid tint. I imagined this the brightest coloured *Mesembryanthemum* in existence until not long since I saw at Abbotsbury Castle gardens one, *M. tenuifolium*, that was a shade more brilliant. In these latter gardens, as well as in those of Tresco Abbey, Isles of Scilly, a very complete collection of these plants is grown, and in each place they are very successfully cultivated. Near the water the *Mimulus* is a cloud of gold and crimson, and the brilliant effect of *M. cardinalis*, or seedlings from this variety where these are grown, is very striking. In such places the pale blue of *Myosotis palustris* charms the eye, while in shaded spots *M. dissitiflora* is not yet flowerless. The old-fashioned Bergamot (*Monarda didyma*) is bearing its crimson blossoms, and the sweet-scented Tobacco plant (*Nicotiana affinis*) perfumes the night air with its white stars, while *Love-in-a-Mist* (*Nigella*) expands its light blue flowers amid a thicket of thread-like foliage. Many of the Evening Primroses have disclosed their beauties—(*Oenothera fruticosa* with its abundant yellow blossoms, *O. Youngi*, the white-flowered *O. speciosa*, the beautiful *O. marginata*, with large, perfumed, white cups, that flourishes in the rock garden, and the giant *O. Lamarckiana*, with its towering spire of yellow blooms. The Arabian Star of Bethlehem (*Ornithogalum arabicum*) was in flower at the beginning of the month, when the Golden Drop (*Onosma tauricum*) commenced to show its yellow bells and *Oxalis floribunda rosea* was a breadth of pink in the sunlight.

The Tree Peonies were in many gardens so badly injured by the cold winds of April, that their display was not up to the standard of former years, *Reine Elizabeth* and *Lactea* being the most satisfactory, while many beautiful flowers of the herbaceous section expanded, amongst the most delightful of which was the single white *P. albi-flora*. Pansies are charming now, from the old bedding varieties that dwell in the cottage borders to the many novelties of the tufted section that witch the eye with their exquisite colouring. Paris Daisies are probably more decorative than they have ever been before at this period of the year, for the large plants left in the open ground passed through the winter unharmed and are now sheets of white and yellow bloom 6 feet and more in diameter, while many of the Ivy-leaved Pelargoniums are in like case, and there are already hanging masses of bloom on *Mme. Crousse* and *Souvenir de Charles Turner*. The Pentstemons are also bright with flower, and the white Pinks have filled the air with fragrance, *Mrs. Sinkins*, *Her Majesty*, and *Mrs. Welsh* being improvements upon the old variety in size, even if they are not in perfume. [The blue and the white *Jacob's Ladder* (*Polemonium coeruleum*) are blooming in many a cottage plot, and gardens are gay with Poppies. The vivid scarlet of the giant Oriental flames afar, the yellow Welsh nods by the side of the shady path, while the Iceland Poppies, clad in orange, white, and yellow, hold their dainty crinkled heads erect. Each day Papaver pilosum sheds ere noon the fragile apricot-tinted petals that shimmer in the morning sunlight, the single white Opium Poppies, that stand apart with stately mien, dream with open eyes their short hours away, and the Shirley Poppies' brave attire is soon discarded. Potentillas are also in bloom, the golden *P. pyrenaica* and the velvety crimson *P. nepalensis* creating a pretty contrast, while the Fair Maids of France (*Ranunculus aconitifolius* fl.-pl.) are flowering, and the old double white *Rockets*, growing vigor-

ously in large patches, breathe their sweet perfume in the evening breeze. Old plants of *Salvia coccinea* are producing bloom, and the vivid ultramarine of *S. patens* already attracts the eye, while the Caucasian Scabious has commenced to bear its large pale blue blossoms. *Sedum album* and the pink *S. arvernense* are in bloom, and early in the month many of the best Saxifrages were to be seen blossoming in rock gardens, where the pretty little white-starred *Silene alpestris* was also present. Of herbaceous Spiræas, *S. aruncus*, *S. filipendula*, *S. japonica*, and *S. palmata* came into flower ere the month had ended, while Stocks, Sweet Williams, and Sweet Peas blossomed in the cottage gardens. Very beautiful are some of the new varieties of the latter flower, their faint tints of mauve, sulphur, and flesh colour harmonising exquisitely when arranged together in bowls for indoor decoration. The Meadow Rues (*Thalictrum aquilegifolium* and *T. adiantifolium*) have been in bloom, but the chief charm of the latter lies in its leafage. The purple blossoms of *Tradescantia virginica* show their deep colouring here and there, while *Veronica spicata* and *V. prostrata* are still in bloom, but *Verbascum phoeniceum* was at its best during the earlier part of the month. Of climbers, the early days of June saw *Clematis montana* still in bloom, while, later on, arch and trellis were covered with the great white and mauve stars of the earliest varieties of the large flowering section. *Cobæa scandens*, which has survived the winter in the open, has produced its purple bells. *Tropeolum speciosum*, with its roots in the shade, covers a space of rough wall with vivid scarlet. Among the

SHRUBS

large plants of *Abutilon vitifolium* were pyramids of lavender and white at the opening of the month, and *A. vexillarium* was also in bloom, as were the Ghent Azaleas with their harmonious tints. The Strawberry Tree (*Benthamia fragifera*), every spray clothed with its greenish yellow blossoms, was thrown into high relief by a background of Elms. At Kingswear *Carpenteria californica* was in flower in the open, as was an Orange tree. *Cistus* and *Ceanothus* in variety, *Cytisus Andreanus* and the yellow Broom, with tall double *Deutzias*, have been or are still blossoming, while every other plant of *Dracena australis* has produced a scented flower-spike, some of which even on comparatively small specimens have been 4 feet in length. The pink flowers of *Escallonia macrantha* have appeared somewhat later than usual this year, and the Mountain Laurel (*Kalmia*) has produced its clusters of cupped, shell-pink blossoms. The ivory-white chalice of the great standard *Magnolia grandiflora* open with increasing frequency, and *Ozothamnus thyrsoides* is smothered with minute white flowers. Here and there a specimen of *Paulownia imperialis* was to be seen in bloom, and a charming picture was presented by the flower-sprays of the white and pink *Robinias* standing out from the dark foliage of the Copper Beech. *Spiræa flagelliformis* is in bloom, and I saw lately a specimen of *Solanum crispum* in full flower. Thorns, Veronicas, *Viburnum plicatum*, and *Weigelas* have also been in bloom. Among the many interesting plants in flower in Mr. Archer-Hind's garden at Coombefishacre were *Bloomeria aurea*, *Borago laxiflora*, *Brodiaea stellaris*, *Caccinia glauca*, *Coronilla iberica*, *Callirhoe Papaver*, *Campanula* G. F. Wilson, and a seedling somewhat similar in appearance raised by Mr. Archer-Hind a few years ago, but the colour of which is decidedly deeper than that of G. F. Wilson, while it is of more drooping habit than that variety. At Coombefishacre this seedling goes by the name of *C. pulloides*. Of Geraniums, the white variety of *G. sanguineum* was blossoming, as was *G. Wallichianum*, while a clump of *Cypripedium spectabile* was in fine flower, as was *Hieracium lanatum*. The white *Ostrowia magnifica*, over 5 feet in height, had expanded the first of its splendid blooms, while among the many Lilies in flower *L. Hansoni* was conspicuous. *Lindelopha*

spectabilis, Malva Munroana, Modiola geranioides, and several Triteleias were also blossoming, while the silvery foliage of Convolvulus Cneorum was thickly strung with the coral-red blooms of Tropaeolum pentaphyllum. Large bushes of the pretty little single Cluster Rose (R. polyantha simplex) were in full flower, as were many Syringas, amongst which Philadelphus speciosus, with pure white flowers over 2 inches in diameter, was most noticeable. This Syringa is quite distinct from the form generally known under the title of grandiflorus, although the two are treated as being synonymous in some dictionaries. P. Gordonianus, P. grandiflorus, P. hirsutus, P. microphyllus, and the charming P. mexicanus with its small cupped blossoms were also in flower, to be followed shortly by P. inodorus. Honeysuckle and Jasmine are bearing their fragrant flowers, and the yellow Jasminum revolutum is also in bloom. Solanum jasminoides, that commenced to flower in April, is rapidly becoming white with bloom-clusters.

June is the month of the Roses, but this year their advent was later than usual. Early in the month Rêve d'Or was in the zenith of its beauty; the Austrian Briers were bright canary-yellow and glowing orange-scarlet to the tips of their shoots; on a trellis the Carmine Pillar Rose opened its richly-tinted single flowers, the Scotch Briers were masses of bloom, white, sulphur-yellow, and light pink, and the charming little Rose de Meaux produced its pink blossoms. The single white Rosa laevigata blossomed throughout the month, as did Tea Rose Socrates, one of the most fragrant Roses that blooms; then before the close of the month the Musk Roses and Cluster Roses came. W. A. Richardson is of better colour this June than it has been for the last six years. Of the Hybrid Sweet Briers Lady Penzance is very taking, and Irene Watts, one of the China section, is of a beautiful colour, something between that of Ma Capucine and l'Idéal. S. W. F.

NOTES OF THE WEEK.

Hemerocallis aurantiaca major is the finest of all the Day Lilies, a strong grower, rich in colour, an abundant as well as profuse bloomer, and, in short, the very type of what a first-class perennial should be.

Carnation Queen of the Yellows.—We send a bloom or two of our Carnation Queen of the Yellows. We may be mistaken, but think it the finest yellow yet raised.—B. S. WILLIAMS & SON.

* * A handsome, richly-coloured flower.—ED.

Strawberry Trafalgar.—By post to-night we are sending you a few fruits of Strawberry Trafalgar (new) (Waterloo × Elton Pine). In constitution and cropping qualities it is much better than Waterloo and some days later.—LAXTON BROTHERS.

* * Very promising in various ways.—ED.

Galega officinalis variety bicolor.—I send you a few blooms, knowing that you have not seen the bicolor form prior to this, as it has originated from seed at Ard-Cairn. I know the white, and the blue of gardens are well known. The bicolor form is, I think, a great beauty.—W. BAYLOR HARTLAND, Ard-Cairn, Cork.

Galega officinalis alba is a very pretty, if not, indeed, elegant, border plant, forming a perfect bush and producing throughout the summer months a most useful lot of flowers. The foliage also is neat and elegant, and supplies by its freedom of growth ample material for vase decoration without having recourse to Fern or other foliage.

Calochortus venustus albus Vesta.—This is well-nigh unique, not only for the purity of the flowers, but also for its vigour and freedom of flowering. It is, however, somewhat rare at present, though, owing to its vigour, it may be encouraged to seed, and in this way increase the stock of one of the most beautiful of the race.

Coreopsis grandiflora superba is one of the most beautiful of border plants at the present time and one well deserving of its varietal name. The tone of yellow is one of the most pleasing, and the flowers, produced in great numbers on thin and very wiry stems, are especially useful for cutting. It is,

moreover, a plant that will endure a cut-and-come-again principle.

Asplenium divaricatum.—This was one of the most distinct in Mr. May's recent group at the Drill Hall, the entire fronds being of a pale golden green tint that rendered it very striking among the many dark-leaved varieties brought together on the occasion in question. The plant has an elegant and graceful habit of growth.

Lilium candidum.—This unique garden flower appears to have been well suited this year by the continued drought that has prevailed, with the result that the snow-white heads appear abundantly in many cottage gardens, towering away to 5 feet and in some instances 6 feet high. In many wayside gardens in the districts of Feltham and Hampton this Lily is flowering freely.

Sweet Pea Butterfly is one of the most charming of these flowers, at least in the edged class. Unfortunately, there are many varieties bearing the name, and we saw quite recently as many as eight varying stocks in the seed trial grounds at Reading. A selection made by Messrs. Sutton has a lovely Picotee-like edge of blue, which is very fascinating among its fellows.

Tropaeolum Fairy Queen.—Tais is one of the most beautiful of the trailing Nasturtiums, and specially well suited for covering a large space quickly either on the level surface or for climbing fences and the like. Fairy Queen possesses the peculiarity of having lemon-coloured flowers at first, these changing presently to a decided buff, and finally, with age, to orange, the varying shades apparent at one time on the long shoots.

Ostrowskia magnifica alba.—So much has been said, and not without some reason, in disparagement of this plant in its ordinary colour, that I am induced to send you a bloom of the white form, which is very lovely. My plant is from 5 feet to 6 feet in height, bearing six large flowers at the top, pure white, each 5 inches across, and delicately scented; in form, with the large pistil, not unlike a Hibiscus.—T. H. ARCHER-HIND, Coombefishacre, Devon.

Tufted Pansy Masterpiece.—Of the many excellent white kinds of recent introduction few are equal to this variety. It is now literally covered with blossoms of good size, of almost circular form, and of the purest white, with a neat yellow rayless centre. The growth is compact, not spreading, as in many other Tufted Pansies, and growers will find in this variety a distinct gain to this class of plants, especially for massing in the hardy flower border.—D. B. C.

Tufted Pansy Virginus.—For the last fortnight this new sort, which is said to be a cross between Florizel and Niphetos, has been flowering most profusely. The colour may be best described as a very pale blush-lilac, somewhat like Rosea pallida in colour, but from careful observation it appears to be a distinct advance upon that variety. The flowers are of medium size and stand up on stiff, though rather short foot-stalks, and from a beautiful procumbent style of growth.—C.

Two good light-coloured Roses.—Mme. Gabriel Luizet and Mrs. J. Laing are amongst the very best light-coloured Roses, and this year they are in better form than for many years. I noticed in the reports of some of the most important Rose shows that the latter appeared in almost every winning stand. In this garden these two are amongst the most reliable kinds I grow. La France and several others are useless compared to these, although growing side by side.—DORSET.

Self-coloured Sweet Peas.—I am sending you several bunches of self-coloured kinds. From a garden point of view or for cutting these are far the best. Now there are so many really good kinds no one need grow the poor splashed and weakly-coloured forms. I recently cut some of the kinds I send you with stems each 15 inches long.—DORSET.

* * A beautiful gathering, embracing all the various shades of colour now found in the Sweet Peas, from pure white to the richest carmine.—ED.

Carnation Lord Rosebery.—Speaking generally, yellow Carnations are somewhat tender and will not bear rough usage. The one I am sending you under this name is a border or semi-border kind. Grown in pots it does well, flowers freely and does not burst its pods. It was sent to me by a friend in Ireland. From a plant in a 7-inch pot I cut from two and a half to three dozen good blooms.—J. CROOK.

* * A very promising kind; flowers pale yellow, without the least sign of bursting.—ED.

Frœbel's Water Lily.—Messrs. Frœbel, of Zurich, have sent us by post blooms of a beau-

tifully coloured Water Lily of their own raising, which we hope to flower ourselves this year. Lilies travel such a very long distance so badly by post that we cannot describe it fully, but it is a very highly coloured one, something like ignea, and will, we hope, be a valuable addition to the Water Lilies.

Brodæa stellaris.—Brodæas are deservedly coming into greater favour among those who like variety in their gardens. Among the prettiest here is B. stellaris, a rather dwarf species, with flowers of the deepest purple, but showing a white centre, which forms an effective contrast to the dark colour of the segments. It is only about 6 inches high as grown here, in a rather dry position in the rock garden, with a southern exposure. B. stellaris is a native of California.—S. ARNOTT, Carsethorn, by Dumfries, N.B.

Rose Mme. Alfred Carrière.—One so seldom sees a reference to this Rose that it may not be amiss to remark how beautiful it is in the neighbourhood of Dublin. At Carton it is a great favourite, and Mr. Black, the gardener there, considers it one of the best. At Hamwood, Co. Meath, the delightful garden of Mr. C. R. Hamilton, some exquisite blooms were to be seen on the walls about the middle of June. The flowers were almost pure white and were free from the lumpiness and heaviness of outline to be found in many Roses.—S. ARNOTT.

Swainsonia galegifolia alba is an old and in past years a popular plant, though one not frequent by any means at the present time, notwithstanding its beauty and its freedom of flowering. It is indeed to greenhouse flowering subjects what the well-known Galega officinalis alba is to the herbaceous border, and it is to be regretted it is not more often seen. Treatment similar to that given Genista or Coronilla will be found to suit this beautiful and free-flowering plant, some capital examples of which appeared at the Drill Hall last week from Mr. May, of Edmonton.

Lilium Humboldti magnificum. A very handsome Lily of much better form than the type, the recurring segments broader and heavily spotted. It is, indeed, a superior form to L. H. Bloomerianum. These Lilies are especially happy in a soil composed equally of peat, leaf soil, and loam, with some sand and about one-fifth of thoroughly decayed manure well incorporated with the bulk. Depth of soil is also important with these, as indeed many Lilies. This handsome Lily was included in Messrs. Wallace's group at the recent meeting of the Royal Horticultural Society.

Eremurus Bungei.—The handsome spikes of this species constitute a very agreeable change among these very striking flowers in the open. Instead of the usual white or delicate flesh-pink of some other kinds we have here the same bold spike densely set with flowers of a clear citron-yellow shade. Such an one will undoubtedly be not only valued in the garden, but should prove useful to the hybridiser. As it is, there is no doubt as to its beauty or extreme worth, and those who saw the handsome spikes that Messrs. Barr brought to the Drill Hall last week could not fail to admire them.

Veronica Zanichelli.—Can anyone tell me the origin of this name, which is that of a Speedwell, distributed from Chiswick to the Royal Horticultural Society's Fellows? It is now in flower here and differs little, if anything, from forms of V. Teucrium often seen. It does not appear to me to be worth retaining under a separate name. The Veronicas are notoriously confused in nomenclature, and a study of various so-called species and hybrids followed or accompanied by that of the names in the "Kew Index" does not tend to enlighten one much. The name here given does not appear in that work.—S. ARNOTT, Carsethorn, by Dumfries, N.B.

Lilium speciosum album novum.—Whether for the open garden or for pot culture, this lovely Lily has no equal among the members of its group. Although pure and beautiful in the chaste and handsome flowers, it does not enter

into competition with the lovely Madonna kind, as unless forced very early it cannot be got into flower till the Madonna kind is on the wane, the above keeping up a succession for some weeks. Some magnificent flowers of it appeared in the hardy plant cut-flower group from Messrs. Collins at the Hampton cottage garden show quite recently, the flowers individually large and very pure.

Rose Gustave Regis.—In my garden I have had La France in magnificent bloom, while Gustave Regis has been remarkably fine. This Rose I find greatly admired by my lady friends; the long pointed buds, of the loveliest shade of pale primrose-yellow, slightly tinged with red, are charming. The flowers when fully open are not very double, but very large and elegant. It is a stout robust grower, with splendid foliage. I hope some of your correspondents will favour us with notes on some of the new Roses you mentioned a week or two ago—I mean Queen Mab, Mons. Cadeau Ramey, &c.—J. L. (late Hon. Sec. Woodbridge Horticultural Society).

Exacum macranthum.—Those who have only seen in small plants the unique colour which this lovely plant provides can realise nothing of its marvellous effect when seen with fine heads 18 inches across or perhaps more. Some such examples of it resplendent in the rich royal purple hue that renders it absolutely unique were at the Drill Hall a week ago, the exhibitor being Mr. H. B. May, of Edmonton. The examples in question, a mass of rich blossoms, were upwards of 2 feet high, with an immense corymbose panicle of flowers. It is at once a conspicuous object, of which but too few are seen. As a stove annual it should be grown quickly and freely from the first. The lovely colour and bright yellow stamens should commend it to all.

Iris Kämpferi.—This lovely Japan Iris comes as a fitting finish, so to speak, to the handsome and useful race that has given flowers of indescribable beauty from the earliest days of the year till now. Quite apart from the colour point of view there is a charm in their informal and waving petals that can only be seen in the garden, and best perhaps where the greensward is not too far removed. Moisture during growth they certainly appreciate, but the margin of a lake or pond is no longer a necessity for these gorgeous flowers of July. Given good and deep, thoroughly enriched soil, there is not the slightest reason, if planted in due time, why a considerable measure of success should not result. On quite dry soil with heavy dressings of manure I have grown and flowered this Iris in great numbers and variety.—A GROWER.

A fine Daffodil bulb.—We are sending you a bulb of Narcissus Emperor taken from a batch of some 5000 growing here in our grounds. Though we cultivate annually many thousands of Narcissi and are familiar with Irish, English, Guernsey, and Dutch grown bulbs, we believe this crop exceeds anything that has ever before been seen here or anywhere else. The bulb sent measures just 1 foot in circumference, and is one out of three which turned the scale at 2 lb. Similar results in the same grounds are obtained with bulbs of the varieties bicolor Empress and Sir Watkin, which, though yearly very large, this year have increased to mammoth size. Judging from their broad and rich foliage whilst growing and the immense blooms, we expected to see some fine bulbs, but nothing like so phenomenal as is this year the case.—LOUIS VAN HOUTTE, Ghent.

Acantholimon venustum.—This charming alpine is now gay with its pretty pink flowers, the latter much later than usual this year. In very gritty loam the plant offers but little difficulty to the cultivator so far as growing it is concerned, but it is quite another question to talk of increasing it by the usual methods of "cuttings, division, or seeds." I have many times tried to save seed and failed, and am this year taking special precautions in this direction. Fertilisation in the ordinary way appears to be

rendered void by the curious manner the petals have of folding up and recoiling within and deep down into the calyx. The only way of avoiding this is to draw out the petals at an early stage, but in this way also you sacrifice the stamens and of course the anthers, the pistil also at times being either withdrawn or injured. So far I have only succeeded with a very small proportion of cuttings.—E. J.

Salvia cadmica.—Among the seeds sent to this country by our generous friend Mr. Edward Whittall, of Smyrna, were some labelled *Salvia cadmica*. According to the "Index Kewensis" Boissier is the authority for the species, and I think it probable that the plants produced by the seeds sent are quite correctly named. Mr. A. K. Bulley, of West Kirby, Cheshire, flowered this species a year before my plants came into bloom, and was much pleased with it. It has flowered here for, I think, three summers, and although rather large for the position in which I have it, this Sage is pretty enough to be worth retaining. On rockwork it forms a spreading bush of hoary green leaves with a pronounced, but, to me, not exactly pleasant, odour when touched. The flowers are arranged in long, loose spikes, and are pale lavender in colour with white markings. It is more suitable for the border than for the rock garden. *S. cadmica* comes from Asia Minor and is quite hardy with me. It grows about 2 feet high.—S. ARNOTT, Carsethorn, by Dumfries, N.B.

Notes from Carton, Co. Kildare.—I was at Carton the other day. The Roses, Water Lilies, and the great pergola, built by the late Duchess Hermione, are lovely now. The pergola is 100 yards long, 10 feet wide inside, 14 feet high, and well built and paved with brick. It is topped with peeled Oak and covered with Spireas, Roses, Vines, Clematises, &c., and the narrow borders inside are furnished with hardy plants in pots. The whole thing is a fresh and beautiful open-air conservatory, and I have seen nothing like it outside of South France and Italy. Its position is good on grass near a row of fine Yews. Every year will see it more beautiful, and it really forms a fitting memorial of one who loved all things beautiful and knew how to grow her flowers. The Rose garden at the cottage is lovely, Crimson Rambler, Brunonis, Austrian Copper, white rugosa, and the garden hybrids being very free and bright as backed by the red-tiled roof and the fine old Cedars and Beech trees.—F. W. B.

A note from America.—I wish you could have seen the Trilliums in May when they were in bloom. There was literally a bed of them three miles long, and a more beautiful display I doubt if you ever saw. The south sides of the hill are covered with Bloodroot, and where the Trilliums grow there are acres of *Dicentra cucullaria*. *Rubus odorata* is in full bloom now and will continue flowering until autumn. The foliage and flower of this Raspberry are both extremely effective. *Sambucus pubens*—I think you know it in England as *Sambucus racemosa*—although a scarce shrub in this country, is very plentiful just across the river, and is very effective now and will be for some time with its plentiful crop of crimson berries. The common Elderberry (*Sambucus canadensis*) is just coming into flower, and often the two species can be seen growing together, the crimson berries of the one contrasting prettily with the white flowers of the other. Wild Azaleas we have and *Kalmia latifolia* by the acre, and a week or two ago I discovered large patches of the daintiest of all our wild flowers—the trailing *Arbutus*. Notwithstanding the shyness of this retiring beauty, I have succeeded in establishing a large patch of it in my garden. *Mertensia virginica*, *Phlox divaricata*, *Silene virginica*—in fact, almost all our wild flowers—are very plentiful hereabouts, excepting the *Cypripedium*, of which there does not seem to be any in this neighbourhood. The crowning glory of our spring woods here is the large-flowered white Dogwood, and I wish you could have seen about 100 acres of it when it was in

bloom in a wooded ravine about a mile from my house. This ravine is an open wood, and all the undergrowth is Dogwood, bushy little trees ranging from 8 feet to 10 feet high up to 20 feet.—J. W. ELLIOTT, Pittsburg, June 15.

PUBLIC GARDENS.

Prince George's Ground, Raynes Park.—The Clothworkers' Company have given £100 towards the £10,000 which the London Playing Fields Committee are trying to raise to purchase Prince George's Ground, Raynes Park, as a permanent playing field for Londoners of the poorer classes. The total sum secured up to date, including contributions promised conditionally on the purchase being completed, now amounts to nearly £5000.

The Physic Garden at Chelsea.—Mr. Whitmore (Chelsea) asked the hon. member for the Thirsk Division of Yorkshire, as a Charity Commissioner, whether he was aware that the Society of Apothecaries had resolved that it could no longer maintain the Physic Garden at Chelsea; and whether, in view of this decision and in order to preserve this ancient garden, the Charity Commission would be willing to sanction its acquisition by the governing body of the City parochial charities and its subsequent maintenance by them as a botanical garden. Mr. Grant Lawson (York, N.R., Thirsk) in reply said that the Society of Apothecaries as trustees of the Physic Garden at Chelsea have applied to the Charity Commissioners for the establishment of a scheme for the future administration of the trusts regulating the garden, which is now maintained at the charge of their corporate funds, and they desire to be relieved from the trusteeship. The Commissioners have received from the trustees of the London parochial charities an offer to undertake the trusteeship of the garden and to make a provision for its maintenance for the purposes of botanical study, which appears to be sufficient for that purpose. The Commissioners accordingly propose to publish a scheme giving general effect to these proposals.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, July 26, in the Drill Hall, James Street, Westminster, from 1 to 5 p.m. Bamboos will be a special feature at this show, and at 3 o'clock Mr. A. B. Freeman-Mitford, C.B., will lecture on the "Economic Uses of Bamboos."

The weather in West Herts.—The past week was the warmest as yet experienced this year. The night temperatures were, as a rule, but little warmer than is seasonable, but on two days the highest readings in shade exceeded 80 degrees. On the 14th the difference between the lowest and highest readings in the thermometer screen amounted to as much as 32 degrees. At the present time the soil both at 1 foot and 2 feet deep is about 2 degrees warmer than the July average. A tenth of an inch of rain fell during the early morning hours of the 19th, but previous to this none had fallen for more than a fortnight. No rain water at all has come through the 2½ feet of soil in either of my percolation gauges for nearly a week. During the five days ending the 18th the sun shone brightly on an average for over eleven hours a day.—E. M., Berkhamsted.

Clematises dying off.—I bought a full collection of Clematises early in the year from one of the houses most famous for them, and I am sorry to say they are all dying off one by one, sometimes quite suddenly. They are planted in newly-made and deep soil, in the best situations, against walls and corners. Can any of your readers kindly tell me what they think is the cause of this?—V.

Names of plants.—J. Crook—*Clematis recta*.—Hugh White—*Oncidium crispum*.—A. K.—*Serapias cordigera*.—W. O. H.—*Lathyrus sativus* var. *ceruleus* (see THE GARDEN, p. 40).—F. M. B.—Looks like *Helianthus decapetalus*, but would like to know height. —W. O. H.—1, the common Bugloss; 2, *Cotyledon umbilicus*.

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ORCHARD AND FRUIT GARDEN.

STRAWBERRY FORCING.

FORCED Strawberries are much valued here, and I grow about 1000 plants. For the first lot I grow La Grosse Sucrée and Royal Sovereign. The latter I use for succession, including a batch or two of Laxton's Noble, the fruit of which is handsome, but lacking flavour and substance. Royal Sovereign is a much superior fruit, as we get size, flavour, good colour, firm flesh, and it is a splendid cropper. It is very important to have strong and well matured plants. I layer into small pieces of turf about 3 inches square which has been stacked long enough to kill vegetation. The best runners are obtained from plants put out the previous year. If the soil is kept moist the runners will be ready to be detached from the parent plants in three weeks, when the bits of turf will be well filled with roots. If placed in a shady place and syringed every morning and evening in dry weather, they will be ready for potting in a week. Six-inch pots are employed for all plants, good drainage being given, with a small handful of half-inch bones over the drainage. The soil consists of loam of a friable nature. To one barrow-load are added a 6-inch potful of soot, an 8-inch potful of fine bones and a sprinkling of wood ashes. A few rough pieces of the potting compost are placed over the crocks, using the potting stick freely. When the plant is potted, the base of the crown is 1 inch below the top of the pot. It is well to be particular over the state of soil as to its proper moisture and to keep the plants well up, the base of the crown showing clearly. It is very important to grow the plants fully exposed to all sun possible and shelter from the strong winds, also to have a good depth of ashes or loose gravel to stand them on. Watering is well attended to, but judgment should be used at all times, as too much soon causes an unhealthy appearance. My plants are watered twice daily in fine weather. I commence feeding slightly when

the pots are well filled with roots by giving soot water about twice a week. Two or three weeks after, they have liquid manure from the cow shed twice a week if fine weather, and occasionally a pinch of guano, which I find an excellent manure for Strawberries. Great attention is paid to all side buds that appear. When they become prominent enough they are rubbed out, which is generally about the latter end of August or beginning of September. This will lead to the development of the entire centre crown, and good strong flower-spikes will result when the plants are introduced into heat. About November I have all the plants plunged to the rims in ashes in some sheltered spot under a wall. I do not believe in wintering plants in cold frames or stacking them on their sides. Light is the most important of all things, especially when the days are short. I have no Strawberry house proper, but have shelves fixed in vineries and Peach houses, in three-quarter span-roofed houses, about 3 feet from the ridge. These houses give plenty of light. The plants grow sturdy and throw up strong spikes of flower.

Before bringing the plants into heat (first batch January 1) they are thoroughly overhauled. The temperature of newly-started vineries is very suitable for starting the Strawberries into growth—40° to 45° at night and from 45° to 50° by day. This temperature is continued for about a fortnight, then gradually raised to 50° by night and 55° by day. Increase the heat after the fruit is set by 5°, after about a fortnight increase till you reach 65° by night and 70° to 75° by day; sun 85° to 90°. I find it very necessary, to finish the fruit, to have a drier and more airy house than it is beneficial to allow a vinery to become. As soon as the fruit is partially coloured the plants must be moved and given more air and a fairly dry warm atmosphere, say 60° by night and 70° by day; this adds very much to the flavour of the fruit. Strawberries, like many other kinds of fruit, require very careful ventilation, otherwise mildew is sure to appear. I allow a little air on

all night, according to the weather. The syringe should be used cautiously, never syringing in dull weather. Twice a day is quite sufficient on bright days, early morning and closing time. Should the foliage be wet from the morning syringing, avoid wetting it again at closing time; damping the floor will suffice. Discontinue when the plants are in flower (unless very sunny weather, when I believe in syringing occasionally at closing time) and when the fruit commences colouring. I do not believe in feeding too soon. I give weak soot-water once or twice a week only until they have set their fruit; after, I feed more liberally by giving liquid manure twice a week with a pinch of guano once a week. I discontinue when I see signs of colour. I always allow on each plant fourteen or sixteen fruits, and plants well treated will swell this number off to a good size. Green fly and mildew are the worst enemies. For green fly I fumigate. If troubled with mildew, dip all plants directly the fruits are set in a mixture of lime and flowers of sulphur—one pound of each boiled in 2 gallons of water and allowed to cool down. Use half a pint to 4 gallons of water.

Gorddino, N. Wales.

W. COATES.

Melon Diamond Jubilee.—In appearance this Melon bears a striking resemblance to Countess, which is really one of its parents, the other being Best of All. Like the Countess it is a wonderfully free cropper, every lateral showing a fruit. It is an oblong-shaped sort, golden yellow in colour, and although stated to be a netted variety, all the fruits produced here have been quite smooth. It has white flesh, which is of good average depth, is very tender, and the flavour is excellent. It also ripens quickly, a great desideratum in a private garden, while it is well adapted for growing in cordon form either for early or late work.—A. W.

Strawberry Lady Suffield.—I am sending you a sample of my last new Strawberry, Lady Suffield. I have also included Lord Suffield for comparison. The new Strawberry was obtained from Empress and Lord Suffield, combining, as I think, the high flavour of the Empress with the

delicious sweetness of Lord Suffield. It ripens before Lord Suffield by a week, thus taking after the Empress in earliness. It is a very firm fruit and a most profuse bearer. I think in Lady Suffield I have taken a decided step in combining the high, fine flavour of Empress with the delicious sweetness of Lord Suffield. It is a most profuse bearer, fruit very firm, and travels well. —WM. ALLAN, *Ganton Park, Norwich.*

NOTES ON STRAWBERRIES.

THIS has been far from a good Strawberry season here, as many of the first blossoms went blind through want of sunlight and the miserably dull, wet, and cold weather which obtained most of the time while the plants were flowering, and also when the early fruits were ripening. For a fortnight or so we hardly saw a glimpse of sunshine, consequently no bees or other fertilising insects were flying, and the pollen being almost continually wet and cold could not act. Out of the older varieties grown, only Auguste Boisselot, President, Vicomtesse H. de Thury, and Latest of All have been really good. The last mentioned, having benefited by the change for the better experienced in the weather, is now excellent, as, too, is Dr. Hogg. Royal Sovereign has disappointed me much, or rather it has confirmed the note of warning which I wrote last year as to extensive planting for outdoor work, for the fruits have rotted wholesale on the plants and the flavour has been poor, want of sun having intensified the natural acidity of the fruit and prevented the rich flavour from developing. I believe that Royal Sovereign is better for a very open situation than it is for a closed-in garden, the leafage made in the latter position being altogether too rank and overpowering, even on year-old plants, to allow of the proper ripening of the fruit in a dull and wet season. Probably the very best place for the variety in question is under glass, and for forcing it has been found first-rate.

Some considerable space has been given to year-old plants of many varieties, and most of these were planted out on a wall border exposed to the south, the plants being well rooted and planted early in August, so that they had every chance of doing well. Well in front of all others has been Laxton's Leader, and to this I can give unqualified praise from all points of view. It bore a big crop of fine fruits, many of the latter running to 2 ozs. weight each, beautifully coloured and the flavour first-rate. I was not quite prepared to find it so good, as I had read of its being inferior as to flavour, but on this light soil nothing could be much better, and I place it on a level with President in this respect and well before it as to size and cropping, while the leafage is not nearly so ample, though the plant is hardy and robust enough. I am fully expecting that this will turn out a standard variety, good enough for anyone to eat at any time, and one that can be grown with a certainty of a good paying crop, which is more than can be said of many of the best flavoured varieties. Of Monarch, I can give no such good account. I found it very shy indeed, and many of the plants went blind; the few fruits borne were of good shape and colour, very glossy and firm, the flavour only moderate. It will be grown again as a two-year-old. Laxton's No. 1 was the earliest grown. The fruits were small and soft, of a Keens' Seedling flavour and shape, but far behind those of that old variety in quality. It makes ample leafage that well protects the blossoms, but in spite of its earliness it will not be grown again. Countess gave but a poor crop of rather small fruits; these were well

shaped, firm, and of good flavour, but not so good as some others, and it will have to make room for something else which will give a better return. Among those which gave a good crop was Cumberland Triomphe. This is a big round Strawberry of excellent flavour, rather early, but very soft and woolly in texture. Baron Brisse is very similar to the foregoing in general appearance, excellent in flavour, of fair texture, and rather late. It did not give a big crop, but will get another trial as a two-year-old, and until then I must reserve judgment on it. Frogmore Late Pine, an old favourite, is far from a good cropper at any time, but its excellent flavour keeps it a place; as a one-year-old plant, however, it is found by me next to useless. J. C. TALLACK.

Peach Exquisite is, I think, not so generally known and cultivated as it deserves to be, as it is far superior in quality to many other late varieties, and in my opinion the best of all the yellow-fleshed Peaches. The tree possesses a good hardy constitution, is a vigorous grower, and a free setter. It is an excellent kind to grow, either in a mid-season or late house, coming into use, as it does, between Princess of Wales and Walburton Admirable. It is, however, of much richer flavour than the two kinds just alluded to, while it equals them in point of size, the fruits attaining very large dimensions. The skin of Exquisite is pale yellow, mottled with red next the sun. The flesh is also pale yellow, streaked with red, more particularly next the stone, and it is tender, juicy, and richly flavoured. —A. W.

Strawberry Leader.—Those who force Strawberries should give Leader a trial, as it is a grand fruit and not lacking in quality. Its size cannot be complained of, as it may be termed large, and, what is so desirable in a forced Strawberry, it has firm flesh of a dark scarlet colour with good flavour. It forces well and sets very freely in a moist house; indeed, it is not unlike Royal Sovereign as regards its growth. Growers may ask, Why grow Leader when Royal Sovereign is so good? Leader is later than Sovereign, and being so distinct in flavour it is well worth room in all gardens. It is excellent for open-air culture, as it comes in just at a time the earlier ones are on the wane. As a mid-season Strawberry it should find favour. This season I am much pleased with the good quality of its fruits. —G. WYTHES.

Strawberry Latest of All.—This produces enormous fruits of the richest and most exquisite flavour, but the name is misleading, as I gathered ripe fruits of it the first week in July this somewhat late season. But, whenever they come, such splendid fruits are welcome and are bound to command admiration. Not being a particularly vigorous grower, Latest of All may be planted rather more closely than the majority of kinds, and as runners are not very freely produced until somewhat late in the season, the lines, if planted too far apart, have a rather bare appearance. But there is no question as to its value here on a heavy strong soil. The fruit is very firm and travels well. The points of the fruit are occasionally somewhat pale in colour and are all the better for a night in the fruit room before being eaten. Its pale green foliage is very distinct. —H. R.

Strawberry Monarch.—Last season I wrote rather disparagingly of this variety; not that the fruits were not large enough, or that the plants had any fault of growth, but simply owing to lack of flavour. It is little short of remarkable that, in such a season as we had here, with drenching rains right up to the time the fruit was ripening, the flavour should have improved; but it is none the less the fact, and in all probability Monarch will be best in wet seasons. Since the first fruits were gathered we have had

more seasonable weather, and the fruit has been splendid, not only from young beds—though these were naturally the finest—but also from two-year-old plants. With good culture and plenty of room it is doubtless a very fine strawberry, and, according to the present year's experience, of far better flavour than Royal Sovereign. —H.

RASPBERRIES.

WHILE no fruit pays better for good culture than the Raspberry, the fair results produced by an amateur or beginner with a few old stools or rows at his command show that it is easily grown. The let-alone plan, in fact, is so satisfactory to a certain extent that no fruit is more likely to be neglected year after year, the gathering of the fruit and thinning out of the old canes being all the attention they get in many places. The soil in which they are grown has a lot to do with continued success, and a fairly heavy yet well-drained soil cannot easily be beaten. Even in gardens of some pretensions there is a disposition to fight shy of disturbing old Raspberry quarters and planting new ones, yet if gone about in the proper way and at the correct season the work is as easy and the result as sure as making a new Strawberry bed. The suckers that spring up at some distance from the older stems are the most easily detached and best for planting, and the safest time for the work is early autumn while there is plenty of warmth in the soil and yet little fear of long-continued drought.

For private gardens there are many suitable methods of training, but I question if any give less trouble than a wire at about 3 feet from the ground, the canes being planted a foot apart and tied to the wire. Where much exposed, two wires are best, one at 2 feet from the ground, the other at 4 feet, this steadying the canes, which may be allowed to run higher than the top wire if the lines are set at a good distance apart. The land of course will have been in order long enough to have got nicely settled, and planting must be followed by a mulch of short manure.

The depth at which the roots are set depends a great deal on the nature of the soil, but shallow rather than deep planting should be the rule. This because the Raspberry roots deeply with the lower tiers of roots, and seems by the nature of the upper, more fibrous, parts to delight in running just under the surface. The long thong-like roots steady the plants in position, while those nearer the surface collect food and moisture. For this reason they should be kept up, well spread out and as far as possible kept always moist. In early spring these planting canes should be cut down to within a few inches of the surface, and as soon as strong sucker-like growths appear from the base the little lateral shoots may be rubbed quite out, even from the few joints left. The care of the grower will be by all reasonable means to ensure a strong, healthy, and clean growth, that in the succeeding season will carry a fair crop of fruit. The second season, if properly treated, a very heavy crop will be gathered, and after this the plants should go on improving for several years. Pruning consists, of course, in taking out the old wood after fruiting, and so thinning the number of young shoots annually that there is no crowding on the trellis. The old canes are best removed directly the fruit is taken, the additional room being useful, allowing sun and air to enter freely and thoroughly ripen the young canes. A heavier crop of fruit may in some instances be gathered by topping the young canes to different lengths

in spring, not indiscriminately as they come, but leaving the stronger canes a foot or even more longer than shorter or imperfectly ripened ones. A more regular supply of fruit down the trellis and a heavier crop, owing to each separate cane being taken at the most suitable height, result. Perennial weeds are a great nuisance in Raspberry quarters, as they run in and out among the canes where they are difficult to get at. It is worth while on this account being at a little trouble in cleaning the land before planting, and, by frequent stirring of the surface, keeping all such as wild Convolvulus, Twitch, and Thistles in check.

As mentioned above, the Raspberry pays for good feeding, and a liberal dressing of the surface annually is well repaid by the improved yield of fruit. The mulch need not be all farmyard or stable manure. There are many things that are useful, such as potting-bench refuse and the soil from the decaying of garden refuse and a little lime.

Melon The Czar.—A short time ago I had occasion to mention in these columns that I had three new varieties of Melons on trial, the above being one of the trio. Since then the fruits have matured, and when tested proved to be all that one could desire. The plant is a strong grower, but not perhaps quite so prolific as some other sorts I am acquainted with. The fruits are, however, of fine proportions, round in shape, and averaging about 5 lbs. in weight, while the skin is pale yellow and slightly netted. The flesh is white, of great depth, edible quite up to the rind, and very rich and deliciously flavoured. I do not know its parentage, but it certainly is a first-rate sort and one worthy of cultivation. Having to meet a large demand for Melons, I always give new introductions a trial as they are sent out, some of which prove satisfactory and others quite the reverse. The above, however, possesses all the good qualities claimed for it by the vendors, and will therefore be grown again and in quantity.—A. W.

Peach Salway.—I am glad to see that Mr. Iggulden, in his note on "Peaches and Nectarines for Market," has a good word to say in favour of this much-maligned Peach. Owing perhaps to the situation here being a good one for outdoor Peaches, Salway generally does well on a south wall. By this I do not wish to infer that the flavour is first-rate, because it is not; but the fruits grow to a large size, they are very handsome, and it certainly is a valuable Peach for late work. It ripens with me outdoors about the middle or third week in October, and, as Mr. Iggulden justly remarks, it keeps well, and at that season of the year is invaluable for dessert. For some reason my tree has missed bearing this season, although it blossomed well and had apparently set a good crop. The blooms, however, dropped in a wholesale manner, a thing I have never known to happen before. What makes it more remarkable is the fact that other trees near by on the same wall and grown under precisely the same conditions are carrying good crops of fruit.—S. E. P.

Apple Cox's Pomona.—This richly coloured and handsome Apple may justly be termed as "accommodating," so well does it submit to being cultivated in any form of tree, while it is also exceedingly prolific. Another point to be advanced in its favour is the fact of its being a very consistent bearer, as it but seldom misses fruiting. The fruits are of medium size, but most abundantly produced. It is a very profitable sort, and one on which dependence can be placed for market work, the rich, highly coloured fruit always meeting with a ready sale either privately or otherwise. When grown for private use it is equally good either for the table or cooking. The smallest and most richly coloured fruits should be reserved for table use. They form a

handsome dish, and are much admired for their beauty. The flavour is also rich, and the soft flesh is much appreciated by many people, or by those who are unable to partake of firm, crisp eating Apples. When grown entirely for private consumption the fruits should not be gathered until they part readily from the tree, otherwise they will lack flavour and be dry-eating. For marketing it is necessary to gather the fruits before they become tender for reasons which are only too obvious.—A. W.

Cherry Elton.—This Cherry succeeds remarkably well as a standard, as it seldom fails to produce a full crop of its large luscious fruits. In an orchard the fruit comes into use about mid-July, but when grown on an east wall it is quite a fortnight earlier. It hangs well, so that if not required at the time it ripens, wall trees can be netted over to secure the fruit from bird attacks. If allowed to hang until they are on the point of shrivelling the fruits are delicious. It is a vigorous and hardy grower, and standards soon form good spreading heads. Intending planters should make a note of this, as it is a sort which can be planted with confidence. A few days ago I had occasion to pass through a Cherry orchard in which several trees of this variety were carrying good crops of fruit. This orchard occupies a high and dry situation, it having been formed on the side of a hill, and is so well elevated above the surrounding country that it is free from fog and almost wholly so from frost effects. The upper portion of the hill forms a fine protection to the orchard, and effectually shields it from the north and east, while the land slopes rather abruptly towards the south-west. The soil is a shallow loam, overlying limestone, and with it small particles of the decayed rock are freely commingled. In spite of the situation and the weather being hot and dry, the fruit borne by the trees was first-rate in every respect and not at all dry eating, as I quite expected to find. This shows that Cherries do not need the same amount of moisture as many of our other hardy fruits, as rain drains away quickly in such a position as that occupied by the orchard described. My chief object in mentioning the matter, however, was to draw attention to the fact of Cherries succeeding so well in such a position, and there are, doubtless, many more such positions, not only in this county, but in others suited to hardy fruit culture, which might be profitably utilised.—A. W., *Hereford*.

NOTES AND QUESTIONS.—FRUIT.

Melon Countess of Derby.—This Melon was, I believe, the result of a cross between William Tillery and Knowsley Favourite. The progeny has green flesh and is richly flavoured. The fruits are not unlike those of Diamond Jubilee in shape, but the colour is paler and the skin is also netted. It is a vigorous grower, a good cropper, and the fruit matures in from fourteen to sixteen weeks from the time of sowing, a fact which should be noted by all who have to produce early Melons.—A. W.

An early Strawberry.—My earliest Strawberry this year was Early Laxton, and though the fruits are small they are of excellent flavour. A few persons object to large fruits, and these may with advantage grow the above variety, as it produces a great quantity of fruit, but none large; indeed, the later gatherings are small and just the size for preserving. The fruits are of a rich crimson colour, and being firm travel well. This variety was ripe ten days earlier than any other kind. Early Laxton was gathered in the middle of June, and in quantity the third week, when other early kinds were only just turning. For market I do not advise its culture, as its size would be against it. On the other hand, it forces well, doing grandly in a cold frame. Of late we have paid a good deal of attention to mere size; here is a break in the right direction, and in

Early Laxton will be found good quality and earliness.—G. W. S.

Strawberry Louis Gauthier.—This is doing grandly this year in anything but a good Strawberry soil, and being a late cropper will prove of great value in gardens where these fruits are needed for a long period. Some growers may object to the colour of the fruits when ripe, this being of a peculiar blush shade or a very pale pink; indeed the nearest approach in colour is the White Knight, but superior to that variety. Louis Gauthier is a good cropper, a strong grower, and as it produces an early crop at the end of June or early in July and another in two months' time, it will be a distinct gain in gardens of limited size where many varieties cannot be grown. The second crop is borne on the new growths made now. It is not advisable to cut away runner growths; they may be thinned, and will bear fruit freely in the autumn. Mr. Hudson, Gunnersbury House, grows this variety and speaks highly of its qualities. It is of continental origin and does well in light soils.—G. WYTHES.

Apple Crimson Queening.—I can never understand why this Apple is not among the best known varieties, but one rarely sees a note on it. It is excellent for cooking at any time while in season, and selected fruits are first rate for dessert, handsome in colour, crisp, juicy, refreshing, and highly flavoured. The tree is a very healthy, spreading and robust grower and a sure cropper. The fruits are medium to large sized, conical, with high crown and well-defined ribs, crimson striped on a bright yellow ground when ripe. It is unfortunate it comes into use with the bulk of early Apples and not early enough to give it an especial value on that score, but it remains in season for at least three months, and I use it largely for dessert during the latter half of September and in October before commencing on the Ribston Pippin. If confined to a small orchard and a very limited number of varieties, I should certainly give this a place, with the assurance of having a free-bearing and healthy-growing tree.—J. C. T.

THE MARKET GARDEN.

PEACHES AND NECTARINES FOR MARKET.

PLANTING THE TREES.

TRAINED trees or those that have been pruned about three times and duly trained are too often preferred under the impression that they are the cheapest in the end, owing to their attaining to a productive state the most quickly. No greater mistake in connection with Peach and Nectarine culture can well be made. Trained trees rarely, if ever, produce fruit during the season following planting. They might do so if previously growing against sunny walls and extra pains were taken in transplanting before all the leaves had fallen. As it happens, the trees are principally raised in the open ground and the wood is not of a fruitful description. According to my experience, trained trees are apt to be slow in attaining to a productive state, and are most liable to lose their branches prematurely and piecemeal owing to their gumming badly where so much severe pruning of rank, immature wood took place. Maidens, or trees that have made one season's growth from the bud and not been pruned in any way, are much the cheapest and by far the best to plant. These may be planted during winter or early in the spring and fruited the second summer after. To be plain, if I planted maidens in February or March next—and that I hold to be a good time to do this work—I should expect

them to form fairly large heads during the following summer capable, say, of producing a dozen fruits in 1900, the trees benefiting rather than suffering injury from the early cropping, as it prevents grossness. Strong, well-ripened maiden trees should be bought always from a reliable source, paying the best (trade) price for them. If received in the autumn they may be planted then, or they can be laid in by their heels, taking care to well cover the roots with fine soil and to mat over the tops whenever a severe frost is anticipated. Just when top growth commences is about the best time to plant, and this delay admits of the house or houses being utilised to their full extent for Chrysanthemums and the preparation if need be of many thousand Tomato plants. I ought, perhaps, to have pointed out that expensive curvilinear wire trellises are what answer well in private gardens. Wires strained through eyes screwed into the sash-bars lengthways of the house 9 inches apart and 9 inches or rather less from the glass is, however, the cheapest, simplest, and best arrangement. My trees are about 13 feet apart, but a portion would soon occupy double their allotted space if I could make up my mind to sacrifice the other half of them. For quick returns, plant nearly or quite as thickly as I have done. They can be kept within bounds by judicious stopping and shortening. If large trees are desired, either allow more room in the first instance, or else plant more thickly and transplant some of them to another house when they are nearing each other. There is yet another alternative. Cordons may be grown between fan-shaped trees, and these gradually cleared out as more space is required. I have been advised by an expert that cordon Peach and Nectarine trees planted 2 feet or so apart are very profitable. I hope to be able to say more about that some other time, as my three dozen cordons are only just beginning to bear fruit. Trees "worked" high or with a clear stem are expensive, and, to tell the truth, the shorter the Plum stock the better pleased I am. The best stems are formed by the scions, and if Peaches and Nectarines were all either on their own roots or budded on seedling Peaches there would be fewer failures owing to the stock not swelling properly. We want free, not dwarfing stocks. Stems reaching to the lower wire or from 2 feet to 3 feet high can be had by planting strong dwarf maidens. Top these to the desired height and trim off all lateral growth, leaving nothing but so many "sticks," as a gardening friend once termed my newly-pruned maidens. If the trees are properly planted, taking care not to bury the collars deeply, are kept uniformly moist at the roots and not submitted to hard forcing at first they will break strongly, and what the grower then has to do is to remove the worst placed of the shoots, reserving four or six for laying the foundation of the tree. If these shoots grow strongly, as they usually do, top them when about 18 inches long, thin out resulting shoots and lay in those best situated for the purpose. In this way a fair sized head is formed during the first season, and the wood not being too gross will flower freely the following spring. Gentle heat, with a daily syringing to keep down red spider, is all that is necessary for these young trees. If Tomatoes are grown with them—and no market grower could well resist the temptation to thus turn the space to a good account for at least two seasons—the syringing should be done in the morning after a little air has been given, and there must be no early closing to box up sun-heat, as this means a sudden bad attack of Cladisporium and a light crop of Tomatoes. The Tomatoes ought also to be studied during the

second season, the Peach and Nectarine trees making good progress unless neglected, also fruiting well in the hot and comparatively dry atmosphere that suits the Tomato plant.

TREATMENT OF OLDER TREES.

I believe in thinning out crowded shoots, pruning or shortening those reserved requiring strengthening, and those already tending to grossness lightly. Older trees should be shortened freely to keep them within bounds and to strengthen the centres, as these ought to be as well furnished with bearing wood as the rest of the trees. A close look-out should be kept for fastenings becoming too tight, as I have seen much harm result from a neglect of this precaution. There ought to be no necessity for winter dressings with insecticides. Applying these occupies too much time, and besides the only insect pest that, as a rule, proves troublesome in the case of market growers' trees is red spider. If these have been in the ascendant during the summer previous, thoroughly wet every part of the dormant tree with water to every gallon of which a good-sized handful of sulphur has been added. If the trees are kept properly syringed and the borders constantly moist, red spider will make but little headway, and after the crops are gathered, syringing with sulphur and water, wetting as much of the under side of the foliage as possible and discontinuing the daily syringing, with clear water, effectually checks red spider. Flowers of sulphur mix readily with water if squeezed through a muslin bag. Large trees bearing heavy crops of fruit should be assisted by frequent applications of liquid manure to the roots, and in no case ought the borders to become dry either during the growing or resting periods. Neglecting the borders after the trees have matured their crops is anything but sensible. It is during the next few months that they recoup their strength and the foundation for another crop is laid.

MARKETING THE FRUIT.

If any of my readers have left such numbers of fruit on the trees that many of them refuse to swell and ripen properly, dropping prematurely, the chances are the remainder will not realise high prices, and the trees will have been much crippled into the bargain. Leaving large numbers of fruit at thinning-time with the idea that some will always drop prematurely is the surest way of bringing about this misfortune. Do all the thinning necessary before the stoning period, and if the trees are in good health there will be no premature dropping to complain of. What constitutes a good crop is somewhat difficult to define, but if the fruits are left 9 inches apart each way all over the trees there will not be much wrong either way. If left much closer together there will be many more "seconds" than "firsts." If Nectarines are smaller than Peaches, it does not follow that the fruits may be left any closer together on the trees. It is my belief each Nectarine takes as much out of a tree as a Peach, and if this view were generally acted upon, very many more fully developed Nectarines would be met with in both market and private gardens. I believe half the Nectarines grown in this country are uneatable, owing to the trees producing them being over-cropped. When thinning Peaches or Nectarines, as many as possible should be left on the upper surface of the trees, and all ought to be well exposed to light, air and sun to colour them—pale fruit not pleasing buyers. Some there are who grow good fruit only to spoil it in packing. It should be borne in mind that Peaches and Nectarines ready for

the dining table when packed would be comparatively worthless by the time fruiterers get them, and that however well they may be packed. The time-honoured, but in all instances foolish, plan of suspending fish-nets under the trees to catch falling fruit should never be adopted by market growers. No fruit ought to be left on the trees till ready to drop, as this militates against the quality as well as travelling. Once or twice every day the trees should be gone over, and every fruit just commencing to soften at the base (they must not be pressed anywhere else) ought to be at once carefully, yet forcibly, removed. They may be packed at once or kept resting on a bed of paper and wood wool till they can be packed. If quite firm when started, they will soften somewhat during the journey, and a few hours in a shop window will do the rest. The sender will also do well to grade all his fruit. Never spoil a good gathering by including a few second or undersized fruit with the prime, as this may end in a low price being allowed for all sent. Faulty grading and packing tell their own tale to the commission agent, and advantage may be taken of the inexperienced sender as a consequence. On one occasion this season I had occasion to make three grades, and the returns were respectively 18s., 12s., and 6s. per dozen, or the respectable average of 12s. per dozen. If all had been sent without grading, 9s. would have been the most per dozen returned. Cheap, fragile, or makeshift boxes ought never to be used. Those who send to salesmen should apply for their boxes and pack in these. Home-made boxes ought to be equally as deep and strong, fruit frequently coming to grief in shallow boxes particularly. Nothing hard should press against the points of Peaches and Nectarines, and they ought to rest on a soft, springy base. A box 19 inches long, 14 inches wide, and 4½ inches deep, outside measurement, answers well for two dozen large Peaches, and will hold half a dozen more smaller-sized fruit or Nectarines. Wood-wool has largely superseded cotton-wool for packing, but I do not pack wholly in this, for the simple reason that Peaches and Nectarines are apt to shift in this material, sometimes arriving at their destination resting on their points instead of their base, where, if slightly bruised, it does not greatly detract from the value of the fruit. A layer of cotton-wool may well be placed in the bottom of the box as a foundation only. Each fruit should be placed in the centre of a square of tissue paper, bringing the ends up to a point on the top. Cotton-wool, unbleached, but of fairly good quality, pulled or cut into lengths of about 12 inches, and each width divided into three strips, folded so as to have the skin side outwards, should then be wound round each fruit, and the cotton-wool being deeper than the Peaches or Nectarines, serves as a rest for the base and a protection for the point. The fruit ought to be packed closely and tightly together, and may, further, have a thin or thick layer of cotton-wool, as the case may be, over the top, the lid shutting down tightly on this. Thus packed not much harm should result, even if a railway porter did drop the box in handling. There ought to be no nailing down of the lids, as it is uncalled for. The fruit may, and very frequently is, damaged in trying to force open nailed-down lids, and packers are far too fond of driving in those wire nails. It is well to paste printed labels on the boxes, showing what the contents are, or intimating that the fruit is soft, and the number and quality of the fruit should also be stated openly for the benefit of salesmen.

W. IGGULDEN.

TREES AND SHRUBS.

PIERIS FORMOSA.

THE genus *Pieris* is represented in gardens by some half-a-dozen species, the best known of which are *P. floribunda* from the South United States and *P. japonica* from Japan. Both these are well-known evergreen shrubs, but are generally called *Andromedas*. The genus also contains two or three deciduous species. *P. formosa*, the species now figured, is one of the rarest; it is evergreen, and comes from the mountains of Northern India, where it is found at altitudes of 7000 feet to 10,000 feet, and from China. There it grows some 12 feet high, and is a wide-spreading bush or even a small tree. In England, unfortunately, it is not really hardy except in the south-west, or in localities with a similar climate. It has been grown outside at Kew for many years, but now it is only

diameter; they are nodding, a quarter of an inch wide at the base, tapering towards the narrow mouth, where are five small reflexed lobes. The colour is a porcelain-white. For gardens ordinarily situated near London and further north this plant is of no value as a hardy shrub; it requires the protection of a cool greenhouse; but wherever *Rhododendrons* of the stamp of *Falconeri*, *grande*, &c., will thrive outside, it ought always to be planted. Its general character as well as its great beauty when in bloom are admirably shown in the accompanying engraving.—W. J. B.

Mr. John D. Nauscawen, Whiteway, Chudleigh, Devon, who sent us the photo from which the illustration was prepared, sends us the following notes on the plant:—

I enclose a photo of *Andromeda* (*Pieris*) *formosa*. It is 17 feet high and 28 feet through. As you see, it is one mass of bloom, and certainly one of the loveliest plants for the shrubbery that ever



Pieris formosa at Pentillie Castle, Cornwall. From a photograph sent by Mr. John D. Nauscawen, Whiteway, Chudleigh, Devon.

3 feet high, and this growth has for the most part been made during the last two years, the winters having been mild enough to allow the shoots to survive. The winter of 1894-5 had completely cut it back to the ground. In a word, *Pieris formosa* stands on the same footing as regards hardiness as the tenderer species of Himalayan *Rhododendrons*, except that it has the faculty of sending up growths when killed down to the ground. In Cornwall a few years ago I saw fine specimens of this evergreen, and it is in some such locality, no doubt, that the magnificent specimen shown in the illustration has grown.

The leaves are somewhat like those of the Portugal Laurel, although slightly firmer; they are each 3 inches to 5 inches long, from 1 inch to 1½ inches wide, tapering towards both ends, of a dark lustrous green, perfectly smooth, and have the margins very minutely toothed. It blossoms during April and May, the flowers appearing in great numbers on a compound panicle 6 inches or more in length and in

was introduced. The plant is growing in the grounds of Mr. W. Coryton, Pentillie Castle, Cornwall, where there is a grand collection of Indian *Rhododendrons*.

Crinodendron Hookeri.—There have of late been several references to the above Chilean shrub as an open-air subject in Great Britain. It is generally looked upon as too tender for outdoor culture in this country, and is in consequence most often seen as a denizen of the greenhouse, though in the southern counties there are instances of its doing well in sheltered positions in the open, I myself having seen a healthy plant in blossom during the past month in a well-known garden in Dorsetshire. That it should flourish without protection in a garden as far north as Ross-shire is, however, certainly surprising. In all probability the site that it occupies is naturally protected from cold winds by rocks or evergreens or it could hardly be expected to endure Scottish winters with impunity. Another Chilean shrub that I noticed in bloom in the garden I have already referred to

was *Philesia buxifolia*, which was bearing a quantity of its red *Lapageria*-like blossoms.—S. W. F.

Tree Elæagnus.—Generally speaking, the different kinds of *Elæagnus* that are hardy in this country can be divided into two groups, by far the better known being the shrubby forms of an evergreen or sub-evergreen character, which are natives principally of Japan. Besides these there are others which attain quite tree-like dimensions. They are all natives of South-eastern Europe and Asia Minor and are deciduous. The principal species, *E. Hortensia*, though very uncommon, was introduced into this country over two centuries ago. The variety *angustifolia*, which is one of the very best, has the leaves particularly long and Willow-like; indeed, all of them bear a certain amount of general resemblance to a Willow. The one prominent feature of these Tree *Elæagnus*, or Tree Olives, as they are also called, is the beautiful silvery character of their foliage, and on this account they stand out conspicuously from other trees, more especially when the slender branches are stirred by the wind, as then the intense silvery under sides of the leaves are brought into view. These *Elæagnus* are well suited for dry, sandy soils, for not only do they resist drought well, but the silvery character of the foliage is more pronounced than where the soil is moister and of better quality.—T.

Robinia hispida.—We have in our gardens a great wealth of spring-flowering trees and shrubs, but after they are past the number of subjects in bloom is far more limited, and consequently any that flower then are additionally valuable. Such an one is the Rose *Acacia* (*Robinia hispida*), which, although far less in stature than the other cultivated species of the genus, occupies the first place if regarded from a flowering point of view. It is of a loose, shrubby style of growth. The rich rosy purple pea-shaped blossoms are borne in considerable numbers, and being so distinct in colour from those of any of their associates they are particularly valuable. This *Acacia* is nearly always met with grafted on to the common False *Acacia*, hence it is very rarely seen in its natural bushy shape. If so grown, rough winds would have less effect upon it than when grafted on to a clear stem, as is usually done. Under these latter conditions it must be planted in a fairly sheltered position, as the branches being brittle they are easily broken by rough winds. The specific name of *hispida* is derived from the stiff hairs with which the young branches and flower-stalks are thickly clothed, but all the individuals do not possess this character to the same degree—indeed, there is a form—inermis—in which it is altogether wanting. A group consisting of a few plants of this *Acacia* on its own roots and thus showing its natural habit, should form a most attractive feature in a garden, but it is doubtful if such plants can be obtained.—T.

NOTES & QUESTIONS.—TREES & SHRUBS.

Ribes speciosum.—A note on the *Fuchsia Carrant* growing in bush form appeared some few weeks ago. Naturalised on the grass in a fairly open but sheltered position, its arching shoots thickly set with pendent blossoms of glowing crimson, it was a beautiful sight during the past spring in South Devon and remained in bloom for many weeks.—S. W. F.

Ozothamnus rosmarinifolius.—On July 5 a pretty branch of this valuable plant was shown at the monthly meeting of the Scottish Horticultural Association. The spray was grown and bloomed near Edinburgh with such plants as *Buddleia globosa*, which flowers freely in the district. The spray shown was a foot long and 4 inches across at the base, tapering into a beautifully moulded pyramid of tiny Daisy-like flowers an inch across at the top. It is described by Nicholson as hardy in the south of England, but until the meeting I was not aware it would thrive in the open air so far north as Edinburgh. This

species is said to thrive in almost any soil, and to be readily propagated in summer by means of cuttings made of the half-ripened young wood.—D. T. F.

Abutilon vitifolium.—Mr. S. Arnott's note on the decorative value of large specimens of this *Abutilon* when grown in the form of tall bushes in sheltered situations should lead those who possess warm gardens in the south-west of England and in Ireland to plant this beautiful subject more freely. As he says, description fails to give an adequate idea of the charming picture presented by such plants when in the zenith of their beauty. There are, I am glad to say, not a few gardens in South Devon where they are thus grown, both the porcelain blue and the white varieties being represented.—S. W. F.

Escallonia langleyensis.—This is a decidedly pretty addition to hybrid shrubs, among which the genus *Escallonia* has not, as far as I am aware, previously figured. It was raised by Messrs. Veitch at their Langley nursery, and obtained from E. Philippiana crossed with the pollen of *E. macrantha sanguinea*. The little open bell-shaped flowers are borne in as great profusion and much after the same manner as those of *E. Philippiana*, but instead of being white, as in that kind, they are of a pleasing shade of pink. It received an award of merit last year on June 15, and was recently exhibited in good condition at the Drill Hall.—T.

Philadelphus Lemoinei. I was certainly surprised that this charming little shrub had not up to the Royal Horticultural Society's meeting on June 28 received any recognition from the floral committee, but on referring to the published lists such proved to be the case. An award of merit was bestowed upon it on that occasion, and but for the fact that it is now well known and generally distributed, it would, I venture to think, have received a first-class certificate. These different hybrid forms of *Philadelphus* obtained by the intercrossing of the little new Mexican *P. microphyllus* with the European *Mock Orange* (*P. coronarius*) are really charming shrubs, remarkable not only from their profusion of bloom, but also for the grace and elegance of a well-developed specimen. One particularly desirable feature possessed by *P. Lemoinei* is that the blossoms have for the most part the agreeable fragrance of *P. microphyllus* rather than the heavy, unpleasant smell of its other parent. There are now several varieties belonging to the *Lemoinei* group, one at least of which (*Boule d'Argent*) has double blossoms.—H. P.

Magnolia pumila.—This species of *Magnolia* is but seldom met with, and certainly, as far as the ornamental qualities of its blossoms are concerned, it has no very strong claims to extended cultivation, but the flowers are so fragrant as to at once attract attention. It is, as suggested by the specific name, quite a small-growing plant—at least for a *Magnolia*—and will flower freely when not more than 18 inches high. The ovate leaves, which are each about 6 inches long, are of a dark glossy green on the upper surface and slightly glaucous beneath. The flowers, which do not expand widely, are about the size of a pigeon's egg and of an ivory-white, tinged with green. The fragrance of this species is even more pronounced during the evening than it is in the daytime. It is a native of Java and was introduced towards the latter part of the last century. It succeeds perfectly in a mixture of loam, peat, and sand in a warm greenhouse or intermediate temperature. This species will strike readily from cuttings of the half-ripened shoots put into sandy soil and kept close till rooted. Plants so obtained flower when quite small, and I have had them when but a few inches high, and in 2½-inch pots each bear a comparatively large globular bloom.—T.

Magnolia Watsoni.—This must certainly be assigned a place among the most desirable shrubs that have been introduced within the last ten years. The flowers, which are freely borne, are nearly 6 inches in diameter, and ivory-white in

colour. A very conspicuous feature of the flower is a broad ring of crimson filaments that surrounds the pistil. When first expanded the flowers are very agreeably scented. This *Magnolia*, though it is as yet but little planted, has proved hardy in this country, at all events in fairly sheltered positions. *Magnolias*, as a rule, do not readily establish themselves, particularly if they are planted in a bleak or exposed spot. All of them succeed best if sheltered from the wind, and a good plan is to plant them when small in a clearing where there is a shelter belt of trees and shrubs sufficient to break the force of the wind, but not near enough to rob the soil or to shade the *Magnolias* to any great extent. A soil that is not too much parched up at any time is also necessary to their well-doing. Another species nearly related to *M. Watsoni* is *M. parviflora*, but the former is the better of the two. There are now so many *Magnolias* that differ widely from each other in stature, flowers, season of blooming, and other particulars, that a most interesting garden feature might be formed of *Magnolias* alone.—H. P.

FLOWER GARDEN.

EXHIBITING TUFTED PANSIES.

THERE is a danger of missing the mark altogether by the encouragement given to the production of florists' flowers such as are met with at exhibitions of the Tufted Pansy, especially where these beautiful hardy flowers are set up in sprays. The exhibitor stages blossoms partaking of all the points of a florist's flower regardless altogether of the plant's habit of growth. It is a fact that many of the finest varieties met with at shows, both in competition and in the exhibits of the trade specialists, are quite unsuited for the flower garden. The question therefore arises, What useful purpose does the present method of exhibiting these flowers serve?

In the first place it must be admitted that a number of sprays, neatly arranged with their own foliage, more especially if a wise selection of varieties be made, is effective, and there is little doubt that many visitors to the shows are captivated by what they see there. This result, most people will readily admit, is satisfactory so far, but the great mistake is made in ordering plants of the handsome kinds exhibited, and which in the succeeding season rarely give the results anticipated. A large number of the sorts, instead of being beautifully tufted and compact in their habit of growth, are coarse, and instead of flowering freely and continuously, are only to be seen in good form during a somewhat limited period, after which the flowers are puny and unsatisfactory. To this rule, however, there are several exceptions, the blossoms being equally valuable for exhibiting as well as for garden decoration, and it is to the raising of such sorts that the enthusiast might well devote more attention.

Beautiful though the last-mentioned class of flowers may be, and greatly admired by the public when arranged in sprays, their excellent qualities for the flower garden can never be properly appreciated until growing plants can be exhibited, showing at once their free-flowering properties and their habit of growth. The type of plant alluded to here is well represented by *Florizel*, a lovely bluish-lilac, wonderfully free flowering on somewhat short, stout footstalks, and of a splendid tufted growth. If the public could only see plants such as this staged growing in pans, baskets, or any suitable receptacle, they would at once be convinced of their great value. There would be no deception if this rule of exhibiting were

carried out, as visitors could see for themselves the class of plant they were ordering, and quickly appreciate their value for certain forms of garden decoration. The craving by exhibitors after the formal flowers of the florist checks all progress, and the sooner less regard is paid to this and more attention given to the raising of pretty free-flowering varieties, combined with the essential of a good habit, the better it will be. At the present time, as with other flowers, owing to the orthodox system of exhibiting the Tufted Pansies, there are many very beautiful medium-sized flowers which are rarely, if ever, seen, and among these are some of the most valuable of our garden plants. Then, too, the rayless miniature sorts, the progeny of the sweet-scented *Violetta*, could not very well fail to interest many gardeners, and a few two-year-old clumps of such sorts in full flower are among the prettiest and daintiest things imaginable. If some of our specialists would only lead the way in this direction, there is good reason for believing that an impetus would be given to the cultivation of the best sorts, and many flower gardens be considerably benefited. Raisers of these flowers, too, would feel there was some scope for their efforts, and would be stimulated in their endeavour to introduce novelties of the best, as for some time past, plants of the loveliest description, but developing blossoms somewhat under the recognised standard of size for arranging in sprays have been discarded, or else retained solely in the raisers' own gardens. D. B. CRANE.

Campanula celtidifolia, which I received a few years ago from Mr. Carrington Ley, is conspicuous in the border with its large clusters of bright blue flowers. It is perfectly hardy and easily propagated by division. This genus is so very extensive that it is a boon sometimes to have one of special merit brought under one's notice.—D.

Lilium Lowi.—I have just flowered a bulb of this beautiful and very variable species. It is a native of Upper Burma and is said to be perfectly hardy: the colour is white, spotted with violet in the inside of the bell-shaped tube. Some of the plants have pendent and others erect flowers. Mine are pendent, and so much so that one has to lift the bloom to see the interior. It is too scarce as yet to trust it in the open ground, and mine has, therefore, flowered in a pot.—D.

Lilium Henryi. Certainly for vigour of constitution there is no Lily that can compare with this. My bulb of it now bears a flowering stem upwards of 6 feet high, and I hope by-and-by will be a grand sight. It has been truly described as an orange-yellow speciosum, and it does not seem to care whether the season is dry or wet, cold or mild. In a few years it will doubtless be more plentiful, and will occupy a conspicuous place in all Lily borders.—DELTA.

Eryngium Oliverianum.—This is one of the prettiest Sea Hollies I have seen, and is in good condition on the herbaceous border at Livermere Park, where the light sandy soil apparently suits it well. Here on a much heavier soil the *Eryngiums* are only a partial success, *E. amethystinum* being the best grower. The plant above named has the segments of the flower very beautifully cut and frimbriated; it opens a very pale greyish-blue, but when fully developed is of a lovely tint. It makes a fine show and should become very popular.—D.

Hardy plants.—This has been a very trying season for gardening generally, and herbaceous borders have amongst other things suffered from the long spell of dry weather. Some gardens are abundantly supplied with water, while in many districts it is a luxury. The effect has been seen in the disappearance of some plants and in the dwarf character of others, while some seem to have done especially well. I have never, for instance, had *Lilium testaceum* so tall and full of flower, but I see a manifest deterioration in some of the clumps of the speciosum varieties. The

plants in the rock garden have on the whole done well, and even now there is a considerable amount of bloom.—D.

CROCUS IMPERATI AND CROCUS VERNUS.

IN gardening books the *Crocus* used to be called "the harbinger of spring," but the many kinds of *Crocus* now in cultivation have various seasons of flowering, so that they may be said to last for eight months in the year; in fact, in Edge Garden *Crocus vallicola*, the earliest of the autumn kinds, comes out in August, and



Crocus vernus leucorrhynchus. Engraved for THE GARDEN from a photograph sent by Miss C. Wolley-Dod.

spring *Crocuses* last into March. *C. Imperati*, which is here figured, may be called a link between autumn and spring kinds, flowering generally in midwinter. After a wet and warm autumn, such as the autumn of 1897, several were out before Christmas, and they arrived at their best before the end of January, which was unusually dry and fine. February, however, is generally their best month, and, of course, in a climate like that of the midland counties of England winter flowers must take their chance, and take advantage of any fine interval frost and storms afford them. *C. Imperati* is named after a naturalist of Naples, Imperato, who lived in the seventeenth century. The species is local, being found only in those parts of Italy which are within about 100 miles of Naples, north and south. It is a very beautiful species, the outside of the flower being pale fawn colour, striped with brown, and the inside rich purple. When the sun is bright the flowers open very widely, as represented in this engraving. The shades of colour vary much. Maw, in his monograph of the genus *Crocus*, gives a coloured portrait of several varieties. The most distinct varieties which I have come into bloom later than the ordinary type, having the outside of the flower without stripes, and the inside very deep rich purple. It also has the tube much shorter, the expanded flower lying nearly flat upon the ground. There is an albino variety, but the flowers are not very pure white and it is somewhat more delicate than the type, the bulbs often dying when they ought to be renewing themselves. This variety comes tolerably true from seed, but as it is rather late flowering, it is not of more value, except as a rarity, than some of the pure white forms of *Crocus vernus*. A fine mass of *C. Imperati* in February is a sight to encourage, and it is worth while using bell-

glasses to protect the flowers from snow and bad weather.

Crocus vernus has a wide native range in the south of Europe, extending from the Pyrenees to the Carpathian Mountains and nearly through Italy to the south. It is included in the flora of the British Islands, but only as a naturalised foreigner. In my boyhood I lived near Nottingham, and I recollect nearly seventy years ago what a sight the purple *Crocus* used to be there in early spring. Driving into Nottingham by the Derby road on a clear day in March, and looking down across what was then open park attached to the castle, the meadows below seemed to me to be covered by sheets of water reflecting the blue sky, such was the abundance of purple *Crocus vernus* extending over many acres; but the Midland railway station and sidings, as well as new streets, now cover what was then a clear area for flowers. Later in the year an autumn *Crocus*, *C. nudiflorus*, was nearly as plentiful in different parts of the same meadows, reaching to the Trent side where Wilford Ferry then was. The variety of *Crocus vernus* in the accompanying engraving is one figured in Mr. Maw's monograph (plate 26) under the name of *leucorrhynchus*, called also Pheasant's Feather. It is purplish white, feathered near the tip with bright purple, but, as the name implies, having the extreme top of the petals pure white. I have cultivated this



Crocus Imperati at Edge Hall. From a photograph sent by Miss C. Wolley-Dod.

variety for many years, and find that these very marked characters are reproduced in the seedlings. It is one of the earliest of the varieties of *C. vernus*. C. WOLLEY-DOD.

Edge Hall, Malpas.

Ostrowskia magnifica.—I have grown a few plants of this. This year they have flowered with me; one of the plants has given pure white blossoms and the other light shades of mauve. In a letter just received from Mr. Fremlin, in whose garden this plant does so well, he tells me that white-flowered seedlings are not uncommon, and his plants are doing well. There is no doubt that it well deserves its specific name of *magnifica*, for it is the grandest of all *Campanulas* or allied plants. The flowers are fully 6 inches across and very stout in substance. It seems to be perfectly hardy, coming as it does from Turkestan and other parts of Central Asia. There is no doubt it will find a place when better known in all gardens where hardy perennials are cultivated.—DELTA.

Epilobium angustifolium.—In Hyde Park good use is made of our own native Willow Herb (*Epilobium angustifolium*), with which one large circular bed is completely filled, thus forming quite a dense mass of stems, crowned with

myriads of its pretty blossoms. Associated with other plants it is of far too aggressive a nature to prove an agreeable neighbour; hence it should be planted with care, but with an entire bed given up to it, as in Hyde Park, no objection can be taken on that score. The soil, too, being fairly dry, it reaches a height only of 4 feet or 5 feet. For the last two or three years this particular bed has been most striking, and attracted a larger share of attention than many of those filled with tender exotics, which need protection during the greater part of the year.—T.

NOTES ON THE EARLY SAXIFRAGES.

No group of alpine is calculated to create a more widespread interest than the many beautiful species and varieties of early-flowering Saxifrages. I refer more directly to the encrusted section and to other beautiful kinds, such as *Burseriana* and the like. Beautiful and interesting as these early kinds undoubtedly are, many of them are by no means of easy culture, or, at least, this sort of impression gains ground because anything like large examples of them are rarely if ever seen. Of course, among the trade growers examples of extraordinary size are not to be expected, simply because the slow-growing character of the plants on the one hand with the demand on the other prevents the retaining of plants for specimen size. In a large number of instances progress is very slow, but in others, as, e.g., *S. apiculata*, *S. sancta* and a few others, progress is quite rapid, and of these a lovely carpet may be formed in two or three years if the proper position be selected. It is quite a different matter with such diminutive gems as *aretoides primulina*, *Boydii*, *Boydii alba*, *Burseriana* and its varieties, *calyciflora*, *squarrosa*, *diapensoides* and others near akin. Of these, all of which are either slow growers, or comparatively so, the well-known *Burseriana* is the freest grower, though oftentimes rather disappointing just when success would appear in sight. Frequently the beautiful silvery grey tufts of this kind become patchy and disfigured during winter from a cause I cannot explain, but which is as prevalent when the plants are placed in frames for the winter as when wintered in the open. Once or twice lately I have seen tufts of large size similarly affected, wherein rosettes each one and a half inches across have been destroyed. Singularly enough, a solitary tuft may be thus affected in perhaps two or three places, not necessarily so large as the above, but large enough to create disfigurement all the same. All the forms of *S. Burseriana* at times are subject to this attack, the older plants as a rule being more liable to it. The only other species I recall suffering in the same or similar way is the spiny-tufted *S. juniperifolia*. In some winters this species is very badly attacked, the past mild winter being no exception, some very large patches being now greatly disfigured. This kind, however, quickly recovers if taken in hand early in the year, the brown portions pulled or cut away and repotted closely and firmly up to the green portion again. The *Burseriana* forms do not so quickly recover, and these also require considerably more care in dividing than the other species just mentioned. At the same time I am convinced that the tufts of this species are not divided sufficiently often to ensure continued health and vigour in many instances. Indeed, it is no unusual thing for a plant of this to be one year covered with flower buds and the next season to be almost barren. My theory is that the rosettes of flowering size all performed this function in the one season, and perished as a result of that flowering, the remaining rosettes composing the tuft being too small and too crowded to attain to flowering size in the year following. This, however, is most likely to ensue with pot-grown plants rather than with plants possessing greater freedom in the open rock garden.

What I suggest as a remedy for this flowerless condition is that the plants should be divided immediately after flowering, unless seeds are

required. A good way to divide *S. Burseriana* or its varieties is to wash away all soil in a vessel of water, and, with the root fibres in view, carefully pull to pieces, cutting away any disfigured portions afterwards. Cuttings of this kind root quite freely in pure sand kept moist, and though the process is a slow one it is quicker than raising by seeds. By the latter means, however, quite a numerous progeny may be raised with care, which latter is essential always, more particularly as the seedlings are appearing. Seeds of these should be sown as soon as ripe, but not covered with soil, a piece of darkened glass being sufficient. Well drain the pots, nearly fill with gritty loam made firm, and well soak before thinly scattering the seeds. Place a saucer containing water beneath each pot, and sustain moisture by this means or by plunging in water two-thirds the depth of the pot from the time of sowing. These remarks on seed-sowing may be followed throughout, and if carefully pursued some nice stocks of the choicest gems this race contains may be added to the collection. Of *S. Burseriana* it is scarcely possible to possess too many, and by filling some large pans a lovely display of this may be obtained. Permanent patches of this on rockwork are benefited by a free mulch of sand and soil each year when not divided, by way of imitating the abundance of grit annually washed into the tufts in their native habitats.

The lovely *S. Boydi* and *S. B. alba* are in their requirements almost identical with the beautiful species above named, though slower in growth and possibly more difficult to cultivate in English lowland gardens. Of their worth and beauty, however, there need be no two opinions, while in point of excellence the flowers are not surpassed by those of any kind at present in cultivation. Both kinds are deserving of the greatest care and attention, and when in flower repay it. It is, however, possible to improve even these lovely kinds by a more free spreading habit of growth, for the flowers of each would be very difficult indeed to improve upon, particularly in form of petal or substance. It is, however, no easy matter to cross-fertilise these early kinds unless the matter has been well thought out and the flowering anticipated. To cross-fertilise any kind with the early-flowering *S. Burseriana*, for example, would mean that this species would require retarding or another kind forwarding to meet the case. But any attempt at forwarding such things should be made a matter of time and very gradually done, otherwise a weakly flowering may result. Again, where hybridising is thought of the best results will be secured later on when greater sunlight prevails. Another lovely kind and by no means plentiful is the pretty free-flowering *S. aretioides primulina*, a hybrid raised, I believe, by the late Mr. James Atkins in his famous hardy plant garden at Painswick. This garden, small though it was, was literally crowded with the choicest plants, and among them hosts of the most beautiful of the Saxifrages. The above variety of *S. aretioides*, with its pretty yellow flowers, is among the most profuse flowering and quite easy to manage, though naturally, like the type, very slow in growth. A solitary tuft of this forms a perfect half-circular mound, and attracts frequently even when not in flower by its symmetrical form. In the matter of soil, I treat this, in common with many other kinds, to richer soils than many growers of these beautiful alpine, and not only in respect to its quality, but also in quantity, with more than usual liberality. Too frequently such things are virtually starved by being long kept in a 2½-inch or a 3-inch pot, which with requisite drainage and the small stones usually added to the soil, leaves all too little of the latter for the host of root fibres present in a good tuft of one of these plants. Even a cutting of, say, *S. Burseriana* which is not more than a quarter of an inch high will in pure sandy grit send down root fibres from 4 inches to 6 inches long in the course of three or four months, while growth or progress above ground has been of the most meagre description. And if we assume that such roots are in anything

like a similar proportion in a large plant, it will be seen that the scrap of soil usually given in pots is all too limited. The soil I generally use for the small kinds referred to is about three parts loam, and to this is added very old and short manure finely sifted—the manure already of a crumbling nature—with sand and old mortar or broken brick rubbish.

Very firm potting I regard as one of the essentials to success, and I consider it equally necessary to closely gather the tuft in the fingers of the left hand before placing in the soil. Many Saxifrages root freely from the stems directly below the rosettes of leaves, the more so where the soil is near at hand. By thus collecting the rosettes in a cluster as it were, a tuft may be formed of a previously ragged, spreading plant, though such is not likely to ensue with any of the dense-growing kinds as *S. squarrosa* or *S. aretioides*, &c. During summer it is a good plan to gather together the pot-grown examples of these Saxifrages to a little shade, where also they may receive frequent copious waterings overhead. Indeed it is surprising how they thrive with this abundant summer watering, and, if in good soil also, the result will be even more marked. Where a collection of such things is grown, a sand bed for plunging the pots to the rim is excellent, and this, with frequent watering overhead, will greatly assist growth, provided all overhead covering be discarded. Many of the choicest kinds do admirably thus treated, and those lovely white kinds, *S. Rocheliana* and its variety *coriophylla*, form really beautiful patches if grown in this free and generous manner.

Hampton Hill.

E. JENKINS.

TUFTED PANSIES AT TRENT PARK.

THE value of these useful plants has been fully recognised at Trent Park this season. A recently constructed terrace-garden with a north-western aspect was looking at its best with a bright display of many excellent subjects, but none were more pronounced in their effect than the pleasing varieties of Tufted Pansies which Mr. Lees has employed for the purpose. These were not planted out in long narrow lines, but in masses in triangular form, and most artistically disposed in regard to the association of colours. As viewed from the upper terrace this arrangement was pleasing. As the plants appeared to be thriving so well in this position, it may be interesting to mention the varieties which were best represented. A very pretty mass was William Niel, which was flowering profusely; a short distance removed was a dark velvety blue-black sort named Isa Ferguson. Princess Louise here proved its value as a grand yellow, in most cases represented by rayless blossoms, with short stems on a charming compact habit of growth. *Rosea pallida*, too, with its pale blush blossoms made an effective display. Some growers consider this variety washy in colour, but here it was constant and of a particularly pleasing shade. A fine bold mass of *Duchess of Fife* was much admired. This was a striking proof of the lack of effect which some of the margined flowers give when massed when compared with the selfs under the same conditions. Another fancy flower was *Sunset*, a soft yellow, with a rich orange eye, but with crimson upper petals. This has a nice habit of growth. To those who know the old variety *Countess of Kintore* it may be interesting to learn there is a much handsomer variety with similar markings to that sort and named Mrs. C. F. Gordon. This plant produces quite freely much larger flowers than its prototype, and the habit is all that can be desired. A grand batch of a variety named *Bella* was much admired. The flowers are large, rayless, and have long footstalks. The lower petals are white, the upper ones shaded pale blue. *Ardwell Gem*, the freest of the sulphur yellows; *Ethel Hancock*, the purest of the whites, and many others each assisted to make a charming display.

D. B. C.

NOTES ON HARDY PLANTS.

Gunnera monoica is a pigmy of the genus. The leaves are almost round and crenate; the florescence has the effect of pale Sphagnum nestling among the short leaf-stalks. The whole plant is scarcely 2 inches high. It may be employed as a creeper for the moist nooks of rockwork, and a mixture of live chopped Sphagnum in loam and leaf-mould, forming a spongy compost, seems to suit it.

Silene acaulis grandiflora.—The third name most fittingly represents a special feature, which renders it superior to the type. The original plant was said to have been found wild on the Glyder, N. Wales. The flowers are of a rich deep colour, larger than those of its parent. It is less liable to turn into black patches, and in all ways more amenable to garden uses than the type.

Malvastrum lateritium, or *Malva lateritia* of Hooker, has flowers each 1½ inches across of a pleasing shade of cinnabar-red, with a densely tasselled mass of orange-yellow anthers. The perfume resembles that of a newly crushed Peach. Being an Uruguayan species, its cultivation in our climate will need to be special in the way of winter protection, but it is certainly worth all this and more, as it is only the strong specimens that can do the species justice.

Meum athamanticum.—As we learn the uses and better features of our plants—and many of them, perhaps, very common plants—we shall come to admire this for its charming foliage, which from March to October is ever changing its colour. Just now the sunnier side of the specimen has the richest effect from a blend of sombre green, finely-cut, Fennel-like leaves, touched off with purplish brown, mahogany, and bronzy yellow. The early March herbage is the palest apple-green, getting deeper as the summer advances. I ought to say that the colour results of the foliage are not of these pleasing kinds unless you take off all the flower-stems as they push—the whole stem whilst young—and, of course, these (the flowers) are of no garden value, being but of the plainest type of an umbellifer. The strong smell of the leaves, of course, has to be taken into account when one picks them for indoor use. The scent in this case is liked by many; by others I know it is considered too strong. Anyhow, the smell is not given off only by contact, and so you may enjoy all the rich leaf tints on the plant as a purely garden object without the strong aniseed scent.

Veronica lycopodioides.—It may be as well to say a word more on the question of the name, because I believe I have since in the Botanic Gardens, Edinburgh, seen the plant under another name, and I asked if the second name would be sure to prove the more correct one, and was answered that nothing could yet be certain about these dwarf New Zealand species, being at that time only just introduced. I said I would stick to the first name until we got a well authorised change and have done so. I have met with nothing since to show me that my plant is wrongly named, or if it is, that it is only wrong in common with others. The present kind is now blooming beautifully, hence this note, because this and others of the Whipcord section rarely flower. This plant is scarcely a Whipcord kind; the leaves are just showing a rudimentary effort to attain the more common form of a leaf, hence the appropriateness of the name *lycopodioides*. The flowers in this case are charming. They are small, starchy, of the purest white, with black anthers, being compacted in clusters of four to eight flowers. This form of blossom bedecking the sombre and dense little bushes of but 4 inches or 5 inches high, as may be readily imagined, is just the sort of material for the rock garden. One can scarcely plant these pigmy shrubs wrong; in dry or moist soil they thrive, and, provided they are not deprived of sunshine, may favour us after mild winters with some flowers. I personally never count on flowers, as the peculiar and

pleasing form and habit of the plants are highly decorative without bloom.

Woodville, Kirkstall.

J. Wood.

NOTES AND QUESTIONS.—FLOWER.

Pelargonium Eleanor.—This zonal Pelargonium is of good dwarf habit and free flowering, while the blossoms are of a kind of orange-vermilion tint, a peculiarly bright and effective shade of colour. It is a very good variety either for pots or outdoors.—H. P.

Lilium Browni.—I have been very successful in the cultivation of this beautiful Lily this year. On no less than four of my plants there have been three blooms on one stalk. As I have neither seen nor heard of more than two before, I write to ask you if you can tell me whether three is very exceptional or not.—J. B. M. CMM, Bournemouth.

Lythrum roseum.—A large bed of this richly-coloured variety of the native purple Loosestrife (*Lythrum Salicaria*) is particularly effective just now in Hyde Park. It forms quite a close mass, bristling with flower-spikes, the blossoms on which are rather later in opening than those of *Epilobium angustifolium*, a large circular bed of which is in close proximity thereto.—H. P.

Codonopsis ovata is a somewhat curious and pretty bell-shaped flower from the Himalayas. The flowers are prettily marked, the outside having a slight metallic blue lustre, and the inside veined and blotched with white and yellow. I received this plant under the name of *Codonopsis ovata*, but do not find the name in Nicholson's "Dictionary of Gardening," but I hear from Kew this is the correct name. The plant grows about 1 foot high and is apparently very free flowering. Unfortunately, it has an unpleasant odour, the stalks especially emitting it.—D.

AN ADDRESS TO GARDENERS.*

It is the natural taste, the secret relationship between man and a corner of earth more especially appropriated, enclosed, cultivated, sown, watered, harvested by the hands of the gardener, which have made of the history of gardens in all ages and in all countries a part of the very history of nations, and also a part of the dreams of future life or of popular theologies. Study all these theogonies, all these religions, all these histories, all these fables, not one of them but makes man begin in an Eden, that is to say, a garden; not one but makes him finish after death in an Elysium; not one but mingles that image of a garden, abounding in waters and fruits, with the images and reveries of primitive or future felicity in heaven. What does that prove? That human imagination, in all the paradises it has created for itself, has not been able, to dream of anything better than an earthly or heavenly garden; waters, shade, flowers, fruits, lawns, trees, a fair sky, serene stars, fertile land, a secret intelligence, a mutual friendship, as it were, between man and soil; so true it is, too, that in his fairest dreams man has not been able to invent anything better than Nature: a place in the sunlight, sheltered from trespassers, made beautiful by vegetation, enlivened by the birds of the sky and animals, friends of man, sanctified by the labour of the hands, made divine by the felt presence of the Creator, inhabited, finally, by the family, love, friendship, and by a succession of eternal generations! It is there humanity has placed happiness; and is it not there, too, that you persist in seeking it? In seeking it, not unchangeable and complete as in our dreams, but seeking it at least in the imperfect and brief images, in which we have been permitted to have a glimpse of it now and then for an instant, here below. You do well to seek it there, for if your occupation is the happiest of occupations, your science is at the bottom the least chimerical, the least problematic, the least deceptive, the surest of all sciences.

Yes, independently of the other considerations, which ought to unite the gardener with his art, there is one which has often occurred to me, and which must far more often have occurred to your-

selves: that of all the arts, of all the sciences, I mean, your science is still the one which most truly deserves this name, which the least deceives him who surrenders himself to it, which least distracts the mind in the chimeras of systems, and which in its application restores him most directly and most forcibly to truth. And why so? It is because in your science you are ever in direct touch with, you lay your finger upon, Nature and its visible, palpable, mysterious, but evident laws. Now the divine law of vegetation does not bend to your vain caprices. God, in his immovable works, does not lend Himself to our chimeras. Nature has no indulgence for our false systems. She is sovereign, absolute like her Author; she resists our foolish experiments; she dispels, and sometimes roughly, our illusions. She seconds, aids, rewards us if we handle her fairly and if we work in her true direction; but if we deceive ourselves, if we try to do her violence, to fetter her, to falsify her, she at once violently contradicts us in her acts by sterility, by decay, by the death of all we have tried to create in spite of her and in disregard of her laws. We may deceive ourselves with impunity and for several centuries in succession as to history, philosophy, religious or social systems, even astronomy; we can invent the most absurd chimeras in all these and long foist them on the world for truths. Cultivators of fields and gardens cannot do this. Your longest mistakes cannot endure beyond one season, the period of one vegetation, a spring, a year at the outside. That is the limit of your errors, for that is the limit of your experiments. Beyond this term Nature herself sets you right. She reveals her will to you, for you to harmonise your own work with it. You question her thus unceasingly, respectfully, experimentally, and she answers you always accurately and always speedily. You register your answers in your memories, in your books, in your manuals; and out of this incessant dialogue between questioning man and answering Nature, you compose those catechisms of agriculture or gardening which become the science of vegetation. Thus in elementary books, in the agricultural congresses of the kind you are founding here, this science is propagated, enlightened, extended. Thus it has been since Pliny made the catalogue of all the plants of the Roman Empire in his day; since Charlemagne himself pointed out in his Capitularies, which were his Charta, the name and number of the vegetables which he commanded to be cultivated in his gardens; since Cato, the most inflexible statesman, imposed upon each Roman citizen, however poor, the duty of cultivating flowers in his enclosure, that his culture and elegance might also impart some culture and elegance to the manners of the people (for in desiring to repress the excessive luxury of the republic he did not at any rate desire to impose a sumptuary law upon vegetation), until the time of those maritime and horticultural expeditions of the Crusaders, of the Dutch, of the English, to seek and gather in from the ends of the earth, one by one, those ninety-eight leguminous plants, or those flowers with which your present kitchen gardens and your flower-pots are this day enamelled; the art of gardening, first sketched out by the Romans, universalised and brought to a prodigious state of perfection in China, enlarged in England to the proportions of an aristocratic luxury, depreciated and strained in Holland to the point of adoration of the Tulip, raised in Italy to the dignity of a splendid art, in association with statuary, sculpture, and architecture, utilised in France by its alliance with high agriculture of which it is the enlightener—at last, thanks to your efforts, reaches in several parts of Europe the condition of an industry, employing millions of hands, and importing and exporting millions of fruits and flowers. Thus, observe, for the first time, gardening, which was hitherto a recreation, a domestic luxury, a decoration of the earth, is becoming a new and magnificent subject of commerce at a time when work fails man rather than man work, at a time when the notion of an industry is the invention of a source of wealth, is the invention of an occupa-

tion, of a salary, of a livelihood for thousands of workmen.

And do not think that is an exaggeration. I have just arrived from the South. I have seen upon the littoral of the Mediterranean a considerable coasting trade of flowers. Tuscany and the State of Genoa cultivate and export to the value of several millions the produce of their flower beds! But one art has begotten another. After the art of their cultivation has come the art of harvesting, assorting flowers, colours, shades, scents. This art has made such progress at Genoa, for instance, to such an extent have Roses, Carnations, Dahlias, Tulips, Ranunculuses been studied, combined interwoven, plaited, that bouquets intended for the table at festivities, often more than a yard in circumference, resemble Smyrna carpets, vegetable fabrics, perfumed velvets, mosaics of vegetation. Veritable weavers weave these perfumed tissues. The bouquet-makers there, as at Athens, form a profession by themselves. The bouquets you admire at the fêtes of Toulon, Marseilles, Bordeaux, even Paris, have often been woven at Florence or Genoa. Thus luxurious gardening becomes more and more an industry. Go on perfecting it, and it will become a new art, a painting of which the palette will be a garden. But whatever the merit of this industrial garden in the eyes of the economist, let us be frank and to the point. This is not the principal and the eternal attraction of gardening. No; what has in all ages fascinated men in this fine art, and especially the most sensitive, studious, lettered men, poets, sages, writers, philosophers, even statesmen and warriors, is the closer communion with Nature, the charm yielded by the study of her phenomena, that pious contemplation of vegetation, those ecstasies endlessly renewed at the sight of this universal life, of this dumb intelligence diffused over and visible in the vegetable creation; these vague boundaries between the animal and vegetable kingdoms, which seem to unite all the organised elements into one mysterious unity athwart their apparent differences and divisions. It is this conviction of the divinity of Nature which has often made me accuse myself of pantheism. I am not a pantheist. No, I am not like the child who, seeing a face reflected in the glass, thinks the face and the glass are but one, and stretches out its hands to seize the image. Nature in my eyes, as in yours, is only the immense infinite luminous mirror in which its Creator is reflected. These are the seductions which have in all ages drawn the souls of thinkers to the spectacle of germination, flowering, and fructification in gardens. Shall I quote you Pythagoras, who enjoined upon his disciples, as a maxim of wisdom, to adore the echo in rural spots? Scipio at Linternum? Diocletian renouncing the sovereignty of the world to go and cultivate his Lettuces? Horace at Tibur? Cicero at Tusculum or under his Orange trees at Gaëta? Pliny, describing for posterity the plan of his alleys "framed in Box," and giving the catalogue of his trees shaped into vegetable statues? Old Homer, recalling, no doubt, his own paternal enclosure, in the description of the little plot of Laërtes, shaded and enriched by his "thirteen Pear trees?" Petrarch at Vaucluse or on his hill of Arqua? Theocritus under his Sicilian Chestnut trees? Gessner beneath his Zurich Pines? Madame de Sévigné, in her garden of the Rochers or in her park of Livry, immortalising her gardener in the touching phrase of one of her letters, which is as good as a mausoleum to him: "Master Paul, my gardener, is dead; my trees are saddened by his loss!" And closer to us, Montesquieu, in the broad alleys of his château of La Brède,* evoking the shades of empires and the spirits of legislators, like

* His latest biographer, M. Albert Sorel, writes of the great legislator: "He returned to La Brède after more than three years' absence (of travels over Europe), rejoined his family, devoted himself to his affairs, cultivated his Vines, drew up his genealogy, and transformed his park into an English garden."—A. F. S.

* Translated from the French of Alphonse de Lamartine by Albert Forbes Sieveking.

Macchiavelli, before him, and greater than him in his rustic hermitage of San Miniato, on the hills of Tuscany? Voltaire, in turn, at the "Délices" or at Ferney, framing Lake Lemano and the Italian Alps in the horizon of his gardens? Buffon, at Montbard, like Pliny at Rome, skilled to enjoy in the magnificent living museums of his park the splendours of Nature, which he described? Lastly, Rousseau, whom I had almost forgotten, who desired that his ashes should rest under a Poplar on an island in the centre of a last garden?*

Ah! that man, born of a working class, and almost educated in a servile class, doubtless felt more closely than another the retreat, the consolations of solitude. How often in my first youth, in the first fervour of the imagination and of the soul for great names and sensitive genius; how often have I visited alone, or in the company of a friend whom I have lost on the road, his dear Charmettes, that little house, that narrow garden, hidden in a ravine rather than in a valley, of the hills of Chambéry, but in the shadow of the beautiful Chestnuts of Savoy! How many hours, how many whole days have I not passed under the little creeper-clad arbour which he loved, dreaming of him, reviving his life, looking at the evening rays filtering through the Vine leaves yellowed by autumn, as though still seeking there the most sensitive and most eloquent contemplator of Nature, of the vegetation of God! I should never end if I tried to quote to you all the famous men who have stamped their memory upon gardens. In truth we could re-write the history of all great minds by that of the rural retreats which they have inhabited, loved, or made famous by their steps: to such a degree is man mingled with the earth, either in the cradle, during life, or at the grave of its possessor. And so far does Nature resume her place in the very existences which appear most remote from her, and most estranged from the simple and pure delights of the soil and its cultivator.

And believe me these delights are not reserved for the great ones of the earth, for the rich possessors of parks. No; there is no need of walks of magnificence, of vast spaces, to enjoy all the happiness God has hidden in the culture or the spectacle of vegetation. There are pleasures that fortune may not appropriate or monopolise to itself alone. Nature is never aristocratic, in the sense at least that she has given powers for the enjoyment of natural pleasures, to the rich different from the poor, to the man of leisure different from the man of labour. Whatever the size of the space man dedicates to his enjoyments, there enters into his soul through the senses exactly the same measure of sensations and of pleasures. The human soul is thus constituted because it is infinite. The human soul is endowed with such a power of compression or extension, it is endowed with such elasticity, with such a faculty of contraction or expansion, that it may overflow the universe too narrow to contain it, and cry out, like Alexander, for more worlds; or it may concentrate, fold itself, contain itself entirely in an imperceptible point of space, and cry out, like the sage of Tibur, from the bottom of his half-acre sown with Mallows and watered with a tiny stream, "This small corner of the earth is worth all the world to me."

You may be certain that there was as much pleasure, as much intensity of enjoyment, of sensibility, of contemplation, of tenderness in the soul of Rousseau gazing at the sunset behind the Vine of the little plot at the Charmettes as in the soul of Buffon watching the day break above the Cedars in his park of Montbard. You may be sure that the possessor of thousands of acres planted, laid out, irrigated into gardens on the hills of England, Scotland, or the environs of

Paris does not own a feeling more delicious, more overflowing, more pious towards Nature than you when you rest on Sunday in your little plot of Hawthorn, or at the foot of a few trees in blossom that you have grafted near your two or three hives humming in the sun, by the side of the bed where you have laid down the spade you will pick up to-morrow. And who can better experience this than I? For if you knew Latin as well as you know the universal language of vegetation, I could cry out in your midst, like Virgil's shepherd, *Et in Arcadia Ego!* "I, too, have been a gardener!" Yes, I, too, have had as my first cradle a little rustic garden, hemmed in by a wall of unmortared stones, upon one of those parched and sombre hills which you see from here to the limits of your horizon; there were to be found (for the more than modest mediocrity of my father's fortune did not allow it) neither vast tracts, nor majestic shade, nor gushing waters, nor rare flowers, nor precious fruits, nor costly plants; a few narrow alleys strewn with red sand, edged with wild Carnations, Violets and Primroses, and bordering plots of vegetables for the nurture of the family. Well, there, and not in the gardens of Italy or of the great proprietors of the parks of France, Germany, or England, I have experienced the first and most poignant delights that it is given to Nature to inspire in a soul, in a child's or youth's imagination. I dwell now in gardens vaster and more artistically planted but I have kept my predilection for that one. I keep it as a precious possession, in its ancient poverty of shade, water, flowers, and fruits; and when I have a few rare hours of liberty and solitude snatched from public affairs or labours of the mind to give to vague self-communings, it is to this garden I go to spend them. Forgive me these intimate details, these allusions to domestic life. They are not out of place here; we are all fellow citizens, all friends, all of the same flesh and blood. Let us for a moment have but one soul, as we have but one country. Yes, in this poor enclosure, long since deserted, emptied by death; in these alleys overrun by weeds, by Moss, and the Pinks from the beds, under those old trunks drained of sap, but not of souvenirs—on this unraked sand my eye still seeks the footprints of my mother, of my sisters, old friends, old servants of the family, and I go and sit under the fence opposite the house, which is buried year by year deeper under the Ivy, by the rays of the setting sun to the hum of insects, the sound of the lizards of the old wall, whom I seem to recognise as old garden guests, and to whom it seems I might gossip about old times. Just these first joys of man entering upon life, these first habits, these first raptures of contemplation, these early emotions of life in this rustic and solitary spot, in this domestic hearth, now cold and extinct, gave me this early predilection for gardens, and the simple and intelligent men who cultivate them which brings me back so naturally and so deliciously to this annual intercourse in your midst. The spade, the pruning hook, the rake, the watering-pot, the mere flower-pot in the window of the poor workman are inseparable in my heart from these remembrances of my young existence in the country amidst the labours and occupations of a country house and a modest garden. Forgive me, then, for speaking to you about them from my ignorance. You are gardeners by the hand, by science, by study, by practice. I am only a gardener in heart and sympathy. And now let us go, each to our own calling. Go you, encouraged by this competition of your fellow-citizens, by this unanimous interest, which is witnessed by the crowd filling this theatre fuller than at any representation of a fictive art, by this heartfelt share which women take by their presence at your institution; go and cultivate those flowers, those fruits, those vegetables, those marvels of scientific culture in your rows, in your greenhouses, in your open-air laboratories. I, for my part, return to cultivate in this old neglected garden of my fathers, of which I spoke to you just now, what we poor labourers of the mind

cultivate, and, often as wearied as yourselves, study letters, books, philosophy, history, politics, the art of governing men, of improving society, of sweetening the lot of the people, to carry to civilisation and liberty riper and more perfect fruit. But I return there to cultivate especially those images of things and persons loved and lost, those memories of vanished affections, those living, often bleeding, traces of a life already half spent. I hesitate, I hesitate—shall I go further? There is a shame in all deep feeling; we must not withdraw the last veils from the human soul; there are tears which should only fall in silence and the secret of the heart. I go then, I was saying, to find again in that asylum of my childhood charms more powerful for me, for us all than the richest, the most odorous blossoms of our exhibitions—the perfume of memories, the scent of the past, even the pleasures of that melancholy which is the autumnal flower of human life—all things which are to us, so to speak, the emanations of earth, a distant perfume, as it were, a foretaste of those Elysiums, those Edens, those eternal gardens, where we all hope to find again in happiness those whom we have loved and lost in tears. All things which cause a man of Nature, at whatever distance, in whatever abyss, or at whatever height fortune may have cast him, to desire to return and end his days on the soil which has witnessed his birth, and at least to find his grave in the garden which held his cradle.

GARDEN FLORA.

PLATE 1181.

TRITONIAS.

(WITH A COLOURED PLATE OF TRITONIA CROCATA.*)

For effective grouping in the garden in the early summer months it would, perhaps, be difficult to name anything so beautiful and at the same time so useful as these. This is undoubtedly due as much to their grace and beauty as to their ease of culture or hardiness when properly treated. I purposely use this qualification because it is only rarely that good established masses of them are to be seen. Still less frequently are they grown in pots, while the various species and varieties of which the genus is composed are especially well suited to both these uses. By far their greatest worth, however, is in the garden, where in good soil they not only flower freely, but increase with wonderful rapidity at the root. This is especially true of them when planted in fairly light and well-drained, though well-enriched, soil, the plants spreading out into large patches that surprise many who grow such things for the first time. In short, in the majority of rich light loamy soils Tritonias give but little trouble. In some clay soils where the drainage is less under control these plants in a year or two are apt to fail, and here may be treated differently, mainly, however, by lifting them each year or even every second year and allowing them to remain out of the soil during the winter. In badly drained soils it is best perhaps to raise the bed by an addition of soil of a lighter nature than to undertake its improvement at the original level. By raising the bed the drainage is at once secured, while should the plants need the moisture or more holding soil below, they are at hand should a long season of drought ensue. It is, however, not the summer moisture that does the harm, if harm there be; it is rather the winter wet, which if stagnant is calculated in some instances to promote an enfeebled growth in the year

* Rousseau was buried on the Isle of Poplars in the garden of Ermenonville, designed by his friend and last host, the Marquis de Girardin. The latter was the author of a work on the "Composition of Landscapes," translated by Malthus, which ranks high in the literature of landscape gardening.—A.F.S.

* Drawn for THE GARDEN by H. G. Moon. Lithographed and printed by J. L. Goffart.



TRITONIA

ensuing. All this of course can be avoided by lifting, though some authorities incline to the belief that the lifting is attended by weakening consequences. This is, however, not the case when the plants are in the keeping of those who know their likes and dislikes, and, indeed, it may prove of considerable help when properly treated if only by prolonging the season of bloom in the open ground. If we remember that it is well-nigh impossible to have too much of these things during the summer and early autumn months, whether for cutting or the general embellishment of the garden, it will not be regretted if a portion of the stock is each year reserved for the purpose. The success which has invariably attended the planting of dry stock of these things during the early spring months—frequently as late as April—is the best proof that the harm result-

those gardens where, so far as the soil and other local conditions are concerned, there is no real need to lift the roots the above plan should be of value for the lengthened display of flowers it provides. With such quick-growing and plentiful kinds as Pottsi and *crocosmiaeflora*—so generally referred to *Montbretia*, but now included under the above name—the above plan may more freely be adopted than with perhaps the more recent hybrids, which are as yet not so abundant.

Another beautiful and popular member of this race is the well-known *Tritonia aurea*, more generally referred to by its synonym of *Crococsmia aurea*. There is a giant form of this known as *C. a. imperialis* with handsome orange-scarlet flowers fully 4 inches across. It is somewhat taller in growth, though most attractive on account of the large size and brilliant colour of the flowers. *C. a. maculata* has deep orange-red flowers blotched with brown on the lower petals.

In planting all such things a depth of 4 inches or 5 inches will be found ample, the soil being previously deeply dug and well manured. Manure may be used somewhat freely if well decayed, but at the same time immediate contact with the roots should be avoided. Where annual lifting is indulged in, a less depth for planting will suffice, and if given a mulching later on the plants will not suffer through long drought. With permanent beds or groups the above depth of 5 inches will be enough without the usual orthodox winter mulch, the latter often causing an earlier growth, which is liable to be injured by the keen and biting winds of spring. In instances of deterioration a good time for replanting is during February or early March, before much top growth is made, when a little sorting of the larger roots may be indulged in to advantage, giving the weakened plants a fresh position. Where these beautiful subjects are grown in pots, annual potting or shifting to pots of larger size will be found neces-

sary, employing good rich soil. In pots, however, *Tritonias* require a plentiful supply of moisture, and may be plunged in ashes or other material to modify this as much as possible. Liquid manure may also be freely given till the spikes are well advanced. In pots, as in any position in the garden, these plants attract by their infinite grace of habit as much as colour in the flowers, while in the garden there are no untidy elements to be seen—no dead or decaying flowers on the plants when flowering is over. As the blossoms pass from the early flush of beauty they fall to the ground, leaving the flowering spike and seed-pods as free and as clean as in youth.

By reason of the somewhat numerous and recent list of hybrids mostly belonging to *T. (Montbretia) crocosmiaeflora* (said to be a cross between *Tritonia aurea* and *Montbretia Pottsi*), one of the most valuable garden plants

grown, the numbers of beautiful things in this group are greatly increased, a few of the most worthy being *Etoile de Feu*, rich orange and yellow; *Gerbe d'Or*, golden; *Soleil Couchant*, a very free variety, golden yellow; *Transcendant*, orange-vernilion shade, one of the most showy; *Aurore*, orange-yellow, very large and effective; and *Phare*, reddish crimson. These, together with *crocosmiaeflora*, *Pottsi* and its variety *grandiflora*, make up a very beautiful set of equal hardiness and usefulness in the open garden.

The lovely species in the accompanying plate, *T. crocata*, is a charming plant from the Cape of Good Hope, better suited in this country to frame culture; or by starting it early into growth each year it may be transferred to the open when well established, selecting a warm and sunny position where perfect drainage is secured. Of the beauty of this little-grown species, and particularly its exceptional colour, the coloured plate in the present issue amply testifies.

E. J.

THE WEEK'S WORK.

KITCHEN GARDEN.

MULCHING AND WATERING CROPS.—After a long period of sunless weather we now have in the southern parts of the country drying winds and heat, so that the vegetable crops are quickly affected. To get a fair return it will be necessary to water freely and mulch also. I pay more attention to mulching, as water, no matter how well applied, is so soon lost on a hard surface, that when crops can be mulched, a thorough watering once a week will suffice, indeed, be better than several waterings. It is not always an easy matter to mulch growing crops, the material not always being at hand. Unless such crops as Peas and other surface-rooting crops are mulched in light soil the crop soon fails and there are serious losses. I am obliged to use various kinds of materials. One of the best is spent Mushroom manure; this conserves the moisture and keeps the roots cool. Of course litter of any kind will suffice, but in light soils cow manure is a splendid mulch, and after its purpose is effected it may be dug into the land for future crops. In heavy soils I have found leaves partially decayed an excellent mulch for quick-growing crops, and these retain the moisture. Salads and other quick-growing crops soon suffer from drought, and the flavour is affected if growth is arrested. I would advise filling in between the rows with short litter, and to such crops as French or runner Beans a liberal coating of short litter each side of the rows will be beneficial, and if possible copious supplies of liquid manure given once a week will keep the plants in full vigour. With crops that make a strong top growth it is well to sow in rather deep drills or trenches, as water or food may be given more freely. In the case of Peas in full bearing a few days' heat and drought soon make the pods shrivel, but if the roots can be kept going there will be a full return. In gardens where water is none too plentiful I have found it a good plan to damp growing crops overhead at sunset. French Beans, salads, and Vegetable Marrows are much benefited, as the moisture on the foliage wards off attacks of red spider. I am not in favour of giving water in small quantities at any time if it can be avoided, but I would advise watering overhead to keep the foliage clean. Newly planted autumn and winter crops such as Brassicas will need moisture, and a thorough watering that will reach the roots should be given weekly. In most soils it will be found that the crops will be greatly benefited if the hoe can be kept going, this preventing the earth drying and cracking.

SPRING CABBAGE. I advised a later sowing some three weeks ago. Though the earlier sown plants will be none too large in certain soils and



Tritonia aurea.

ing from drying such things is of very small moment. Where both systems can be pursued in any one garden it may safely be predicted that a long succession of bloom will be the result. This in itself is an important item, not only for increasing and prolonging the season of flowering, but if pursued systematically should be the means of retaining the stock in its fullest vigour. The spring-planted stock of this year may remain through the coming winter in the soil to give an earlier bloom in the following year, while the batch that had flowered and remained in the ground the winter previous would be the one to be lifted this coming autumn. In this way little loss would be sustained in a single year by deterioration, and the corms if harvested at the right time and well kept, i.e., cool and dry, will more than repay the labour and trouble this lifting in alternate years involves. Even in

localities, I am aware many growers think the end of July quite soon enough for this crop, and I would add it is not well to defer sowing the same, as in seasons of heat and drought the seed does not germinate so quickly. I advised Ellam's Dwarf for first spring crop, and I do not think it can be beaten. For a later sowing I have found Flower of Spring and April splendid varieties. These are compact growers, dwarf, and of just the size for a private garden. They closely follow the earlier sown, are of splendid quality, and their dwarf habit makes them hardy. In sowing at this date I would urge the importance of ample room in the seed-bed, a rich soil to promote rapid growth, and an open quarter to get a strong plant. I place much importance on the autumn growth of the plants as to wintering well. Seed sown earlier in the month should not suffer from want of moisture, which should be given freely in the evening, and in the case of newly sown beds the surface soil may be covered to assist germination.

EARLY POTATOES.—These from the early part of June are lifted as needed, but at this date I do not think there is any gain in leaving ripe tubers in the soil, as the hot sun in thin, sandy soil dries up the sap too rapidly and causes loss of flavour. For seed I have found most of the first earlies ready to lift. Of course, the skins may be hardened by exposure, but I do not advise too much exposure to the sun. I prefer a north border to a south one, turning the tubers over frequently. Of course, these remarks apply to a sheltered garden and in a warm locality. In the north and on heavy clay soil growth will not be so far advanced. My best early Potato this year has been Ninetyfold. This crops grandly, and is the earliest. As regards the keeping of the Ashleaf and early kinds, when lifted they should be given a cool store; an underground cellar is suitable, as here is an even temperature. There is a great advantage in early lifting, as now there is no sign of disease, and the land can be utilised for green crops, such as late Kales, Broccoli, and Spinach. For the Spinach it will be well to give the surface soil a dressing of lime, or failing this, burnt refuse and soot, to clear the ground of insect life.

LATE CELERY.—The planting of this in this part of the country has been delayed owing to drought and the lateness of the early Potato crop. In many gardens Celery follows the early Potatoes. For the latest Celery I am not in favour of placing a great quantity of rank manure in the trenches, as I find the best-keeping Celery is that grown with only a small quantity, giving the food in the way of fertilisers when in active growth. Grown thus there is no need for deep trenches, and there is less labour in preparing the soil. Of course, late plants in a dry hot July or August need liberal supplies of moisture at the start, in fact, they should never be dry at the roots during the growing season. I find soot, salt, and liquid manure splendid fertilisers, and these given weekly from September to the end of October will cause a good growth. I plant direct out of the seed bed into shallow trenches. The plants are grown thinly from the start. If large quantities of Celery are needed for flavouring or soups, it will be found advisable to plant for this purpose. I plant in deep drills in rows 2 feet apart, 12 inches between the plants, and mould up with a hoe. This makes splendid flavouring material, and keeps sound well into the next spring. For planting now I have found Standard-bearer the best. This is a medium grower and an excellent keeper.

WINTER GREEN CROPS.—Since my last note on the cropping of the land there has been unavoidable delay, and I fear in many gardens where double cropping is a necessity few have got in their winter crops as early as desired. The advantage of thin sowing and transplanting or pricking off into beds was never so patent as this season, and I fail to see why green crops needed for July planting are often sown early in March. It is impossible to get a good fibrous-rooted plant after being so long in the seed-bed. I could not plant the bulk of the Kales and Broccoli till I had cleared a large quarter of early Strawberry

plants, and this year I am quite three weeks later. Much depends upon the plants. If at all weak or drawn from crowded seed-beds, they will have a difficulty in making up lost time. In planting at this date I would advise drills for the plants, as moisture will be needed, and unless it goes down to the roots it does little good. I have not been able to wait for rain before planting, and have been obliged to puddle in the plants, as the season is so far advanced. I find it advisable to plant the earliest varieties of Broccoli on a piece of land that can be cleared before the winter, as a large portion of the crop is cut in November—I mean Protecting Broccoli, reserving special quarters for late kinds, not planting all in one place, as it is well to make two or more plantings of Model, Late Queen and such kinds. Savoys may with advantage be planted on an east or north border, as these are more valuable when late. If planted early they split badly in severe weather. The same remarks apply to Kales, such as the Cottager's or Dwarf Curled Scotch. A much later supply will be secured from plants on a cool border, and this is a strong point, as in April green vegetables are getting scarce. All kinds of early planted green crops should be gone over, making good all blanks in case the club has attacked the plants. Far better destroy and make another plantation of another variety, and in clean soil, giving the affected quarter a thorough cleansing and good cultivation previous to planting, or, if possible, a rest, turning up roughly to sweeten and pulverise the soil.

PARSLEY.—Having a great demand for Parsley, I always sow a liberal quantity at this season, taking advantage of the first rainfall to get in the seed. To get the best results thin sowing is a necessity, also rapid germination. By sowing now the crops winter better than when sown several months earlier. I admit the leafage is not so fine, but a medium growth is much harder than a larger one. If sown thinly, the roots will give a fair return next November. It is well to use soot freely previous to sowing; indeed, in a light soil, I am sorely troubled with wireworm, one of the worst pests the plant is subject to. For this I use gas-lime and soot, and am free for a couple of years. Plenty of manure and good cultivation promote rapid growth. If the seedlings are too thick it is well to thin early, then give a good watering to settle the soil round the plants. Older plants that have produced seed-stalks should be cut over and given liquid manure, soot-water, or a dressing of soot in rainy weather. In many cases old plants are not worth keeping another year, as much better crops will be secured from seed sown now. S. M.

HARDY FRUIT GARDEN.

SUMMER PRUNING, NAILING AND TYING, &c.—In many instances summer pruning is frequently done too soon in the season, with a view, no doubt, oftentimes to promote an orderly appearance, but at the same time not so conducive to the development and formation of fruit-buds as of secondary growth. My own ideas of this particular work were confirmed only last year in a conversation with a well-known and expert fruit grower in the trade whose experience of the evil of secondary growths was the same as my own. This work will be attended to in my case now and during next week, and as it does not take long when set at with a determination to push it through, it will soon be finished. In summer pruning due regard must be had for future extension and allowance made as to length of shoots to be left, &c. Another important point also is that of non-fertility in any particular fruit or variety, as in some cases by extension better crops can be had. I have noted this in the case of horizontally-trained Pears, in which by depressing the shoots instead of cutting them off better results were obtainable. The regular methods of procedure when they do not give results should be departed from without any hesitation. Do not

when adopting the usual course of summer pruning cut back too close, but rather leave a bud or two in the event of a slight woody growth again pushing. A good rule is to note the condition of the shoots on such as Pear trees, and when it is seen that the growth has ceased extending, then set about pruning. When afterwards attending to nailing or tying, guard against the laying in of too great a number of shoots. At the same time do the work well, paying especial attention to all trees still in the process of formation by equalising the shoots as far as possible so as to secure well balanced examples. Avoid the retention of as many foreright shoots as possible; these oftentimes look unsightly. If cut away carefully now the wounds will be more likely to heal over in a satisfactory manner. Such as Peaches and Nectarines in my case are already tied in, nailing being dispensed with, preference being given to wiring instead. A few more leading shoots may have to be secured, but all lateral growths will be nipped out in quite early stages. The growths on these are now perfectly clean and healthy, whilst the crop, all things considered, is not at all a bad one. Guard against tying too tightly to wires, more especially to galvanised wires, from which more injury need be apprehended. With the shoots all in their places the work of syringing will be an easier matter. Do not cease this until each respective variety commences to show colour, which in the case of the earliest may already have begun in favoured localities. When dealing with pyramid, horizontal-trained or other forms of espalier, and with any other dwarf method of culture, do not be unduly severe in pruning at this season, looking rather for some further extension if it be possible, otherwise in the case of non-fertile trees root-pruning will have to be resorted to later on. I shall now soon go over a young orchard of Apples on the Paradise stock and pinch the points out of the shoots where growth is still active and the trees bearing good crops of fruit at the same time. These trees are being watered freely, owing to the dry weather. Before the last application a liberal dressing of fish manure was applied and at once watered in. Since that, the dry and hot weather still continuing, a mulching of farmyard manure has also been added. The next watering will send an additional manurial stimulant down to the roots. Avoid, if possible, the watering of Cherries with ripe fruits on the trees if there be any indications towards cracking. Morellos will not often show this tendency, at any rate not yet for some time; hence they may be safely watered when in need of it, and that greatly to the benefit of the crop as regards size. Cherries on walls from which the crop has been picked should be nailed or tied, taking out at the same time any superfluous shoots, but bear in mind that this is not done too excessively. Rather lay in all the wood possible if there be any indications of canker apparent. Where the trees have borne a good crop of fruit and the growth is none too luxuriant it will be an assistance to the trees for another season to immediately apply a dressing of artificial manure or of bone-meal. The foundation will then be laid for next year's crop, and a safeguard be in store against the all too frequent failure to get through the stoning process safely. Do not, on the other hand, either manure or water trees that are growing vigorously, but use every endeavour to starve them into subjection. The thinning of such fruits as Apples in order to obtain fully-developed examples, although not frequently done, is a matter well worthy of notice. The present is a good time for doing it, so as to relieve the trees of the smaller and badly-formed fruits. Early Apples, too, in this way may be taken for kitchen use, such, for instance, as Lord Suffield, Lord Grosvenor, and Ecklinville. This is done by the expert market growers, and it will pay in the private garden too. In the case of Plums bearing heavy crops (not this year possibly) the same process of thinning is recommended. Plums even when green and hard make a good preserve, but if gathered with the first tinge of colour upon them they are excellent. The trees

that are bearing heavy crops will thus be greatly relieved in good time.

BUSH FRUITS.—A partial pruning of Gooseberries now will help to arrest a late growth, which may otherwise be possible. The cordon or any other fence form of training the Gooseberry makes it a necessity to do a moderate amount of pruning. Currants in the open will soon be all cleared of their fruit unless it be a few late bushes, as of Late Rivers, which keeps well if secured against birds. Where the growths are seen to be unduly thick it will pay to thin them out now or to adopt a general process of stopping as soon as possible. See that both Gooseberries and Currants against walls are well protected from the depredations of birds, and at the same time give an eye to any appearance of caterpillars, which afterwards will very likely escape notice.

NEW PLANTATIONS OF STRAWBERRIES.—Give attention as speedily as possible to the preparation of sufficient ground for making new plantations. If it be the custom to still retain the beds for two years, part of the work at any rate has to be done every year, or at least it should be. As far as practicable let the position chosen be free from the shade of trees. If for first early varieties, choose the warmest spots; if for late kinds, preference should be given to cooler borders, whilst the main crop may be on open garden ground. If the ground were trenched for the previous crop, say for Peas, Cauliflowers, or the like, that rather tedious operation can now be dispensed with and bastard trenching be done instead, i.e., digging the top spit and forking up the trench, which will give a depth of at least 18 inches. All new Strawberry beds should be made if possible by the middle of August. See that a good proportion of manure is added. If farmyard manure be scarce, then a good substitute will be found in fish manure, which if immediately dug in cannot be complained of as a nuisance. The young plants will soon find a benefit from this manure.

OLDER BEDS.—If kept for another year these should be cleaned off as soon as possible after all the fruit is gathered, all useless runners and possible weeds too, and if need be watered as well. Those beds to be destroyed should be disposed of without delay, and the ground be brought into use as speedily as possible for a vegetable crop.

HORTUS.

Iris Kämpferi.—Whether known by the above name or that of *I. lavigata*, this Japanese Iris again asserts itself as one of the most beautiful plants that we have in flower at the present time. Some of the varieties have the flowers striped and splashed in quite a startling manner, but to my mind the self-coloured flowers are far more pleasing than these. Considerable numbers are sent here from Japan every winter when dormant, and among them is generally a fair sprinkling of a form with large double flowers of a rich Tyrian purple, and a counterpart thereof in size and shape, but in colour pure white. These two are, I think, the finest of all, but a great variety of different shades occurs even among these self-coloured flowers. In a Japanese catalogue before me, fifty varieties of this Iris are named and described. They are, of course, increased by division to keep them true, but at the same time if seed is saved from a mixed collection, the progeny thereof will yield blossoms exhibiting a great variety of colour and markings. This Iris is essentially a moisture-loving plant, and is seen at its best on the margins of lakes or streams, but where there is no such spot available, it may be grown in a satisfactory manner in the open border if the plants are well watered when necessary. To facilitate this they should be planted in a little hollow, when watering is an easy matter. Even then the flowers never attain the dimensions of those grown by the water-side, but as a rule they expand sooner than those that are in wetter spots. During a hot and dry season the border plants are very liable to be attacked by unusually large black thrips, which soon dis-

figure the leaves. Those imported from Japan are generally sent here in the masses of clay in which they have grown, and, being packed in boxes, the interstices are filled with soil. In this way they mostly reach here in fine condition, and planted out many of them will flower the first season. Some fine flowers of several varieties were shown at the last meeting of the Royal Horticultural Society.—T.

ORCHIDS.

LÆLIA ELEGANS.

THE origin of this plant is without a doubt clear enough, being a bi-generic hybrid between *Lælia* and *Cattleya*. *Lælia elegans* has been so long known as such, that the longer appellation *Lælio-Cattleya* comes rather slowly into use. It is a grand plant and worthy of the widest culture, for it is extremely variable, yet good in all its forms, showy, and flowers over an exceptionally long period. During the present season I noticed it flowering in April, and the later forms are seldom over before September, so that six months of the year at least are brightened by its lovely blossoms. The habit of the plant is rather variable, the stems usually tall and erect, the flower-spikes appearing between the apical leaves, and bearing few or many flowers according to the variety or the strength of the individual plant. Again, in the growing and resting seasons the plants differ, some specimens keeping quite dormant after the flowers are past, while others make a secondary growth. The natural habit in all seems to be to grow quickly, flower, and when the pseudo-bulbs are fully developed take a thorough rest until spring. Plants that keep to this routine are also more long-lived under cultivation and generally healthy, but with all our care it is not always possible to keep them dormant until spring. The cooler and drier in reason they are kept after the growth has quite developed the better, but this must not be so severe as to cause the least shrivelling of the bulbs or leaves. One may have a *Dendrobium*, an *Aerides* or many other Old World epiphytes shrivel badly, and after a few weeks of good treatment swell up and be as vigorous as ever, but the *Cattleyas* and *Lælias* will not so quickly recover from this sort of treatment. When the roots are actively searching for moisture and growth is free the plants like an almost unlimited supply of water both at the roots and in the atmosphere, but when at rest they should be treated accordingly.

Being a vigorous-rooting kind when in health, *L. elegans* may be allowed fairly large pots or baskets. Either are suitable, and by placing a weak or unhealthy plant in the latter and keeping it well up to the light I have often obtained larger and better growths. Like its relative, *L. purpurata*, it likes a very rough open compost that the roots may freely enter, and where air and water filter freely through. Drain the pots thoroughly and cover the crocks with about half an inch of rough Sphagnum Moss. When potting becomes necessary—which is seldom—keep the leads as near the centre of the pot as possible, as by this means the growths for three years or more will have the advantage of entering the compost rather than rambling over the edges of the pot. The roots take freely enough to the pottery ware and are as long-lived as may be expected, but unless there are continuous dampings and syringings the growths lose strength, owing to the limited supply of moisture obtained. Keep the bases of the plants well up by rounding the compost, and as far as possible see that

every lead rests on the surface. If too high the plants are half-starved, especially if insects of the character of woodlice and small snails are allowed to get at the young roots before they enter the compost, while low potting is as great an error owing to the liability of the young shoots to damp. If possible, choose the time when the young growths emit roots freely for potting, and this as often as not is directly after flowering. Plants out of health and in bad condition at the roots are better shifted and given new material at any time of year than allowed to go on and die back inch by inch owing to sour compost. Such plants after shifting need very careful atmospheric treatment, a slightly higher temperature and more shade, the roots being assisted by judicious moistening to run out and establish themselves in the new compost. Ordinarily the usual *Cattleya* house temperature and atmosphere suit it admirably, the plants growing on from year to year and making fine specimens. The great variety of the forms makes it useless to describe any one, but that usually looked on as the type has rosy sepals and petals suffused with white, and a tinge of yellow at the base; the lip is three-lobed, the blotch in front being a deep and beautiful crimson-purple. Among the finest varieties are *L. e. alba*, *prasiata*, *Schilleriana*, *Turneri*—of which a coloured plate was published in *THE GARDEN* of May 23, 1896—and *Wolstenholmiæ*. It was discovered by a Belgian collector, Devos, while on a journey for the late M. Verschaffelt, of Ghent. This was about 1847, and the plant at that time is said to have attracted a great deal of attention. Many importations, of course, have been made since then, and it is well represented in collections, but even now the plant is by no means overdone, and it always sells well and freely.

H. R.

Cypripedium Pearcei.—The peculiar Reed-like foliage and pretty flowers of this species make a distinct and attractive plant. It is not so much grown as it deserves, possibly on account of its reputed shy-flowering habit. But in some places it grows and blossoms with the greatest freedom alongside other warm-house Orchids. One thing necessary is to get the plants well established and growing healthily. Flowers are then usually produced with freedom. Coming from Peru, too great heat is inadvisable.

Oncidium Papilio.—In a warm, moist, and extra sunny house this pretty *Oncidium* is never out of flower. I have an exceptionally free and good form of it, but only one plant of this especial variety lived out of a large clump imported some years ago. This, at present, has three flower-spikes, and is growing in a four-inch pot, the marginal band of deep reddish brown spots on the lip being exceptionally rich. The plants are very averse to much compost, but like plenty of water at the roots while growing.—H.

Dendrochilum filiforme.—Though small individually, the slender graceful racemes of flower produced by this species are extremely pretty. The flowers appearing with the young growth, the roots must at this time be thoroughly moist. The plants, too, may be repotted as soon as possible after the flowers are over, as this allows of the young roots entering the new compost. The plants like a shallow rooting space and plenty of drainage, good peat and Moss sufficing for compost. The best position now is in the warmest house. *D. filiforme* is a native of the Philippine Islands, and was introduced in 1840.

Cattleya Hardyana.—This lovely *Cattleya* is now in bloom, and should be grown by all who care for beautiful Orchids. A natural hybrid between *C. gigas* and *C. Dowiana aurea*, it combines the large size of the former with the

exquisite lip-markings of the latter. A plant I have with the flowers now open has been grown in the lightest end of a house principally devoted to Melons, and not with the *Cattleyas* proper. In such positions it is apt to run away at the base after flowering, but while growing there is no doubt it likes a little extra warmth—at all events the first season or two after it has been imported.—H.

EPIDENDRUM BRASSAVOLÆ.

ANY Orchid of a showy character that flowers after midsummer is useful where a continued display is looked for, and this is not only showy, but very easily grown and free flowering. Indeed, there are many of the *Epidendrums* with the habit of a *Cattleya*, or somewhat similar, that if only known by amateur cultivators would go far to enliven and give variety to the houses at this time of year and later. But, unfortunately, if we except one or two of the more popular cool house kinds, *Epidendrums* seem to have lost the position they once held. Yet there are many lovely plants among them, and perhaps a wider variety than in any other genus of Orchids. The present species is now in flower, the blossoms occurring upon tall, stout scapes where the plants are strong and well established. A specimen in flower this week has five such spikes, with an aggregate of seventy blooms, and just now, when the Orchid season is declining, there are many worse things. As the specific name implies, the flowers bear some resemblance to those of a *Brassavola*, especially in the trowel-shaped, pointed lip. The sepals and petals, too, are narrow, as in the last-named, in colour a deep cream or yellow, with a purple keel, the lip white, lined with purple. This may not sound a very showy or effective combination, but as a matter of fact it is very distinct and pretty when plenty of bloom is produced.

E. Brassavolæ is one of the discoveries of the ill-fated Polish collector, M. Warszewicz, who found it high up on Mount Chiriqui. A medium temperature therefore, or where *Cattleyas* are grown, will suit it well; as a matter of fact, the specimen mentioned has been growing in a mixed house of plants and not too regularly treated in any respect. The roots are fairly vigorous and delight in ample moisture all the year round, especially during the time growth is active. The moisture in the atmosphere must be well maintained and the plants somewhat freely damped overhead at all times when the forming leaves are free and not liable to hold the water. If given a roomy pot the plants will not require shifting often, once in three or four years being ample; indeed, if well done in the first place and a little of the old material removed and replaced by new annually, they go on until the pseudo-bulbs begin to grow over the side of the pot, when a shift should be allowed. If longer delayed the growths will be weak and the flowers, of course, fewer upon the spike. The compost may be similar to that used for their Old World prototypes, the evergreen *Dendrobes*, the routine of culture being somewhat similar. These *Epidendrums* are hardier and more easily grown than the latter, and, moreover, flower at a different time of year. *E. Brassavolæ* did not flower in this country for some years after its discovery, the first plants to bloom having been sent by Mr. G. Ure-Skinner to Mr. Bateman.

***Epidendrum cochleatum*.**—The flowers of this species are, perhaps, more curious than beautiful and will appeal to lovers of this class. They appear on a rather crowded raceme, about half a dozen together, the sepals and petals being greenish white, the inverted shell-like lip marked with deep maroon-purple. The plant has the habit of a *Cattleya*, is very free-flowering and easily grown. Repotting may take place in spring, using a rough, open compost and fairly large pots. Water freely when in active growth and allow a good rest if possible, not by drying off the roots, but by a slight reduction in tem-

perature. It does well in the *Cattleya* house and is one of the oldest-known Orchids.

***Cypripedium Sedeni*.**—This hybrid makes a capital plant for amateurs, being always amenable to the simplest form of culture, and bearing its beautiful flowers for upwards of six months in the year. These, occurring on tall scapes from the centre of the fine leafy tufts, have a more graceful appearance than those of most *Cypripediums*. *C. Sedeni* does well in any moderately warm and shady house, either plant stove, fernery or Orchid house proper, and likes a substantial compost. Pot in the ordinary way, no elevation of the plant being needed, and water freely at all times.

***Odontoglossum madrense*.**—The flowers of this species are very pretty and distinct, and it is far from well known. The growth consists of elongated pseudo-bulbs, each bearing a couple of deep green leaves. The spike bears from six to eight flowers, white, and prettily spotted with purple markings at the base of each segment. It is a Mexican plant, and during the summer months does well in a temperature slightly warmer than *Odontoglossums* like as a rule. Small baskets or pans may be used for it, and the usual peat and Moss mixture over good drainage. It likes plenty of moisture at the roots all the year round.

***Oncidium incurvum*.**—The pretty spikes of this old species are now in full beauty, and it makes a fine plant for arranging with other Orchids, giving lightness and grace to groups of *Cypripediums*, *Cattleyas*, and other large-flowered kinds. The spikes appear when the pseudo-bulbs are partly grown, and as they take a very long time to come to perfection the removal of the plants to a cooler, more airy house than the growing quarters conserves the blossoms and helps to ripen up the pseudo-bulbs. An intermediate temperature suits it well. The plants may be easily grown in the usual mixture of Moss and peat, and never fail to flower freely.

***Masdevallia macrura*.**—The flowers of this species are among the finest in the genus, the long tail, from which it takes its name, giving it the appearance of being even larger than it is. On each occasion I have seen this plant extra strong it has turned out, on inquiry, that more warmth in winter has been given than that allowed the *M. Harryana* and similar types. Being of strong growth and somewhat of a giant among *Masdevallias*, rather larger pots than usual may be allowed, the compost being exceptionally rough and open. Though known previously, this fine species was not grown in this country until introduced by Mr. Bull in 1876.—H.

***Odontoglossum Pescatorei*.**—One of the most distinct and beautiful forms of this lovely *Odontoglossum* was offered for sale on Friday, July 1. The plant, flowering from a small bulb of a recently-imported plant, carried a raceme of six blooms, fine in substance and in shape. The sepals are white, slightly suffused with rose-purple in the centre, with a few bright violet-purple spots in the centre of each; the beautifully fringed petals pure white, with several prominent purple spots in the centre; the lip white, shading to yellow, spotted and lined with brown on the crest. In the centre, in front of the yellow disc, are numerous purple blotches and lines, which extend nearly to the apex. There are also several purple spots on the upper outer

edges of the lip. The price obtained for this fine variety was seventy-five guineas.

ARRANGEMENT OF FLOWERS.

In floral decoration it often happens that the most pleasing effect is obtained by simple arrangements of one flower, as exemplified in the accompanying illustration. Both classes of *Hellebores*, the *Christmas* and the *Lenten* *Roses*, come at a time when the garden produces little for indoor decoration. True, there are the lovely *Iris stylosa* and its white variety, and there are generally some spikes of the *Winter Flag* (*Schizostylis coccinea*) in bloom during the time that the giant *Christmas Rose* (*H. altifolius*) is at its best, while the *Winter Sweet* (*Chimonanthus fragrans*) is also an open-air contemporary. The *Lenten* *Roses* often commence to bloom in January, and with these during their flowering period are associated the



Christmas Roses. From a photograph by Mr. J. Gregory, Croydon.

early spring bulbs, but none of these subjects, beautiful as many of them are, should be used for floral arrangements in conjunction with *Hellebores*, the latter invariably creating the most artistic picture when arranged by themselves in a vase or bowl. It is advisable before placing them in water to slit the flower-stems into four divisions with a sharp knife, making the cuts from the base upward to a length of about 4 inches. This prevents the flowers from becoming flagged, which they quickly do if this expedient is not practised. The *Lenten* *Roses*, of which a beautiful coloured plate appeared on June 4, have such abundant foliage, that no difficulty is experienced in adding a few leaves to their flower-sprays, which are themselves furnished with leaflets, without damaging the plants, but in the case of the *Christmas* *Roses* if leaves were plucked every time a bowlful of flowers were gathered, the plants would soon become denuded of foliage and thereby weakened. The blooms of *Helleborus niger* and its varieties are far more solid in appearance, and are carried with greater rigidity on the footstalks than is the case with *H. orientalis*, and therefore leafage possessing something of the firm and close texture of their natural foliage proves the most effective

substitute, and leaf-sprays of the common *Rhododendron ponticum* have been proved to lend themselves to this association with good effect when feelingly arranged. Naturally, where the leafage of the Christmas Rose is sufficiently abundant to provide the needed greenery without injuring the plants no substitute is necessary, but this is rarely the case with such a profuse blossomer. I may have made it appear in the earlier portion of this note that I am averse to floral arrangements composed of more than one flower; this, however, is far from being the case, the beauty of many colour-contrasts being undeniable. I have before me now a charming composition of blue Cornflowers and white Galega; a week ago white Madonna Lilies and the lavender flower-sprays of *Erigeron speciosus* proved equally attractive, while many others occur to the mind as having been every whit as happy, such as *Eryngium Oliverianum* and *Alstroemeria aurea*, the Madonna Lily and the buff Day Lily (*Hemerocallis fulva*), the blue *Salvia patens* and yellow Paris Daisy, but in specifying these few pleasing colour effects one is conscious of a host equally deserving of commendation that perforce remain unmentioned.

S. W. F.

ROSE GARDEN.

ROSES AT COMPTON HOUSE.

THE strongest feature in this place is the Roses. I never remember to have seen so many or grown in so many forms in a private place before. Evidently the soil is favourable to their growth, as I could hardly see a poor plant. Standards were in strong force, and although I am not a great lover of Roses grown in this way, yet I must confess I admired a vigorous bush of Cheshunt Hybrid, 5 feet across and almost touching the ground. *Homère* was nearly as large and literally covered with its lovely pinkish blooms. *Mme. Plantier* grown in this way was quite a sight. In this state standard Roses are lovely. *La France* was beautiful—so different from what I have it in these gardens. Margaret Dickson, *Boule de Neige*, in fact all the best Roses were to be found here. Beautiful as *H. Perpetuals* and *Teas* are, I could but admire the bunch Roses. *Crimson Rambler* and *Bennett's Perpetual* were growing over a big old Yew tree that was dead, but had been set up in a conspicuous place to train these free-growing kinds over, and right well they looked.

On an iron fence I found many kinds of climbing Roses, with a few others, such as *Chinas*, &c., in many colours, all allowed to grow at will and hiding the fence.

Although Roses are grown so largely in the open air, they are given a place under glass, a house being devoted to them. Several of the strongest growing *Teas* and *Noisettes* trained up a trellis are brought into flower very early in the year. In a slip of the kitchen garden I noticed a fine collection of all the best *Teas* in pots of various sizes, from 6 inches upwards, and, judging from the way Roses are grown here, they may be had in bloom all the year round. In an outside portion of the pleasure grounds I found a garden of Roses; these were all dwarfs and mostly of the H.P. class, such as *Marie Baumann*, *General Jacqueminot*, *Souv. de la Malmaison*, and many others were splendid.

J. CROOK.

Forde Abbey.

Rose Joseph Bernacchi.—A plant growing in bush form and pruned long has been lovely this year. The fine trusses are thrown well up

above the foliage and the pale sulphur-yellow blooms are very distinct among climbing kinds. The flowers are moderately full and the petals of great depth. Although it is classed as a *Noisette*, I consider it as much a *Tea Rose* as *Belle Lyonaise*. It would make a grand standard, for its growth is good, but not so rambling as in the *Dijon* tribe. It was sent out by *Mme. Ducher* in 1879. Many a Rose has come and gone that was not half so good as this one, and it should certainly find a place in every collection.

Rose A. Maile (Bourbon).—It is surprising this Rose has not become more generally known. In the first place the form is very regular, and there is the exquisite circular arrangement of petals as seen in *Charles Lefebvre*; indeed, one would take it to be a carmine coloured form of the latter and quite as fragrant. It is a true *Bourbon*. The growth, which is very strong, is after the style of *Mme. Isaac Pereire*, but the foliage has rather more of the reddish hue so peculiar to many of the *Bourbons*. It is best grown either as a standard or trained in pillar form, or if desired as a bush it must be sparsely pruned, for it is rather a shy bloomer until it becomes well established.

Rose Golden Fairy (Polyantha).—This variety of the late Mr. Bennett's raising will not compare with such as *Gloire des Polyantha* for garden decoration, but the flowers are as perfectly formed and as double as those of an *Anna Ollivier*, but so tiny that the individual blossoms are less than an inch in depth. In form it is, perhaps, the most exquisite *Polyantha* variety in cultivation. It is rather a far-fetched description to call it golden, for the fully developed blooms are white with just a suspicion of cream at the base of the petals. The buds and some of the blooms, however, are pale apricot shaded, a fact which no doubt is responsible for it receiving the above name. The growth is strong, rather more so than in the majority of the tribe, and its habit is very bushy.

Rose Mme. Jules Grolez (H.T.).—I shall be much mistaken if this Rose does not prove to be one of the best of M. Guillot's introductions. At first sight one would take it to be *Mrs. J. W. Grant*, but there is a marked difference in form. The petals of *Mme. J. Grolez* are less massive and shell-like, but we have the charming petals, especially the outer ones, of the true *Cactus Dahlias*. The colour, too, in the open flower is of the rich imperial pink seen in the buds of *Mrs. W. J. Grant*. In saying this much for the Rose under notice I do not desire to disparage in any way the grand Hybrid Tea which Messrs. Dickson have given us. In my opinion both varieties will be in much demand for many years to come. *Mme. J. Grolez* is superior in fragrance to *Mrs. Grant* and the growth is of a reddish colour.—P.

Rosa gigantea.—I fear that my inquiry (p. 447, vol. liii.) as to the behaviour of the above Rose in England will prove as fruitless as did "J. R. D.'s" on the same subject six years ago, for the only note that has appeared on its culture in this country since mine was written, some six weeks ago, is signed by "J. R. D." himself, and states that one of his Roses is still alive on a wall at Reigate, but has not up to the present time produced a flower. If no evidence can be obtained of this Rose flowering in England it is undoubtedly at home on the shores of the Mediterranean, as I am informed, through the courtesy of Lord Brougham, that in his garden at Cannes it made shoots 40 feet or more in length during the last season and flowered in April, the individual blooms having a diameter of 6 inches. It seems a pity that *R. gigantea* should not be given a trial on a wall in some sheltered spot in South Devon or Cornwall, where *R. laevigata* grows so rampantly. Doubtless if *R. gigantea* was suited by the conditions of soil and climate it would make vigorous growth and soon cover a large expanse of wall, if we may judge from its behaviour at Cannes. I was informed the other day on hearsay evidence that in its native habitat this Rose

attained a height of 200 feet. I lately measured some blooms of the *R. laevigata* growing at Kingswear, and found that several exceeded 5 inches in diameter. Surely this is a considerably larger size than *R. sinica* or the *Camellia Rose* attains on the Mediterranean shore?—S. W. F.

NOTES AND QUESTIONS.—ROSES.

Monthly Roses.—Will any of your readers tell me how it is my *Monthlies* are dying off? I bought them in France, and I find they have all been grafted on the seedling Brier. Just when I expected them to be getting strong they are shrivelling up and many are dead.—S.

Rose Alister Stella Gray.—I am rather disappointed with this Rose, not but that it is very effective and free, but the yellow tint of the opening flowers so soon fades away, that the blooms become almost pure white when fully opened. It certainly does not retain its colour nearly so well as *W. A. Richardson*, and will not in my estimation supersede it, which I believe it was supposed it would do when first introduced.—A. W.

Rose Souvenir de Lieutenant Bujon (Bourbon).—This reminds me much of a fine variety named *Boieldieu*. The flower is very large. In colour it is a rosy pink, and is a trifle dull. The growth is very vigorous; in fact it would make a very good climber or pillar variety, and its fragrance is delightful.—P.

Rose Mrs. John Laing.—This grand Hybrid *Perpetual* was seen in magnificent form at the recent meeting of the National Amateur Gardeners' Association in the Royal Botanic Gardens, Regent's Park. The blossoms were of large size and grand in colour. They were grown by Mr. G. W. Cook at North Finchley, and a silver medal was given them.—B.

Rose Jules Finger.—In colour this Rose very much resembles *Mme. Lambard*, but is a shade or so lighter and not quite so free blooming. It is a good compact grower, and does well on the seedling Brier. It is very fine for cutting in a half-opened condition, and should be grown wherever there is a demand for this beautiful class of Rose.—A. W.

Rose Jean Ducher.—This Rose has also bloomed magnificently this season, and its beautiful salmon yellowish tints have been developed to perfection. It succeeds extremely well as a bush on the seedling Brier, its habit of growth being compact and upright, without the slightest tendency to become straggling. It should make a good garden Rose in favourable situations. It blooms freely, and a group of it would make a fine show.—A. W.

Rose Mme. Pierre Cochet (Noisette).—Just now the colour of this splendid novelty is very rich. There is a vast difference between this variety in colour, form of bud, and growth and its great rival, *W. A. Richardson*. Save the heavy scarlet markings on the outer petals, the colour is uniform throughout and with none of the white edge to the petals as seen in *W. A. Richardson*. As a bud, *Mme. P. Cochet* is quite half as long again as *W. A. Richardson*, and the shape for buttonholes is perfect. Another great advantage is that it flowers freely as a bush. The Brier is the best stock for this Rose.

Rose Mme. Lambard.—In "D. T. F.'s" list of Roses for culture under glass I rather expected to find this lovely Tea, one of the very best for the purpose, as it is of free growth, flowering in abundance, and of a lovely tint. I know of few varieties that produce such beautiful button-hole flowers as this, and though the tints vary a good deal according to the season, they are always beautiful. I agree with him as to the beauty and free-flowering of these beautiful *Teas* when grown in the way he describes. They are hardly ever without flower in quite a cool house, while if lightly shaded and well fed during hot weather, the flowers are at all times of good substance.—H.

Rose White de Meaux.—Everyone should possess this delightful miniature Provence Rose. The *White de Meaux* is, however, the

most charming of all. Its flowers, very little larger than a penny-piece, are pure white over about three-fourths of the blossom, but the centre is a rich pink. The petals are prettily scalloped and slightly fimbriated, and the expanded blossoms are usually surrounded with about nine tiny buds in various stages, so that when all are developed the result is an effective spray. As it is very dwarf, similar in this respect to the old De Meaux, it would make a pretty edging to beds of summer Roses. There is another Rose of the name of De Meaux, but it belongs to the Moss tribe.

STOVE AND GREENHOUSE.

ASPARAGUS SPRENGERI.

ALTHOUGH this species has made rapid strides in public favour on the Continent and America, it does not yet seem to have attracted much notice in British gardens. Grown in pots or in

Naples, through their collector, Herr Sprenger, after whom the plant was named by the late Dr. von Regel, director of the St. Petersburg Botanic Gardens. In habit it approaches *A. sarmentosus* and *A. falcatus*, but has flatter leaves, or rather phylloclades. The small white flowers are produced in great profusion and emit a pleasant perfume.

NOTES ON PELARGONIUMS.

THE regal and show section is getting past its best, and by the end of July the plants should be stood outside, not quite in the full sun for a few days, but in an open and airy position. This precaution is especially necessary when they have been flowering in half-shaded positions in conservatories or have been used for indoor decoration. If placed quite in the sun the foliage suffers, and this causes a check to the roots, the plants afterwards refusing to start freely. But in a few days they may go to quite

the laterals. The shape of the plants the next season will be much improved if they are well cut back now, no staking or tying being necessary for many of the stouter growers, while even the weak ones will be improved. Give no water after cutting down until the young shoots are seen to be starting, when one thorough soaking will put them right for repotting. The earlier in reason this is done the better. The size of the pots will depend upon how the plants are doing, but, as a rule, the pots will need to be smaller than those they have flowered in, the roots having been shaken quite clear of the old compost and a few of the larger ones cut off. The soil at this potting should not be rich, good loam, leaf-mould, and a little sharp sand suiting them well. Pot very firmly and return to the sunniest spot at command. During the autumn the aim of the grower must be to promote a slow, but very hard and solid growth, and to this end a somewhat free thinning of the shoots should be practised.

ZONAL PELARGONIUMS.—Old plants of these cut back a month ago are now starting well, and these, with the spring-struck cuttings for winter flowering, may be potted up. Until the end of August, or longer should the weather prove hot, they may remain in the open air, but directly cold or wet weather seems imminent the plants must have the protection of a frame. Light frosts occur in September often, and these, though apparently doing little harm, weaken the foliage, causing this to drop later in the season and the plants to produce weak flower-spikes. The scented-leaved section is especially impatient of cold or an unduly damp atmosphere, and as these are principally cultivated for their foliage, even greater care is necessary. There is no need, of course, to close the frame by day or even on warm nights until quite the last thing, so if the plants are arranged thinly they have the full advantage of open-air treatment with no risk of injury from damp or cold. The Ivy-leaved kinds are perhaps the hardiest of all, but even these must have a little protection. Routine treatment will consist in thinning the shoots of the scented-leaved and zonal kinds and keeping the flower-buds closely picked out of all for the next two months. The Ivy-leaved will also, of course, require occasional pinching at first, and subsequently the young stems must be staked and tied. It is now a good time to make up baskets of these pretty plants for winter flowering in the conservatory, and the amount of flower they produce is remarkable. From the end of October until



Asparagus Sprengeri. From a photograph sent by Mr. C. Halford Thompson.

suspended baskets, it has a very ornamental appearance, the shining, deep green sprays hanging over gracefully. For bouquets and table decorations it promises to become very popular. *A. Sprengeri* is a native of Natal. It was introduced in 1890 by Messrs. Dammann and Co., of San Giovanni à Teduccio, near

an unshaded place and be kept considerably drier at the roots preparatory to cutting down. It is quite a mistake to take only the ends of the shoots. If strong and vigorous growth is looked for, the flowering wood must be cut back to where it is quite hard and well ripened, of that brown tint that Vine growers like to see

bloom, and if judiciously fed with a little chemical manure the flowers will be as good at the latter end of the season as at first. The number of plants will depend, of course, upon the size of the baskets, but they are prettier when not crowded, while as to colour there is no lack of variety.—H.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

JULY 26.

THE high standard of excellence which has been manifest in the fortnightly meetings for a long time past was fully maintained upon this occasion. At the previous show the Roses were the predominant feature, whilst on Tuesday last the interest was centred in the Bamboos, of which it may be said, without any fear of contradiction, that no such exhibit has previously been seen at any meeting either in London or elsewhere. The Bamboos gave a charm to the meeting not attainable in any other exhibits. Both Mr. Freeman-Mitford and Messrs. J. Veitch and Sons are to be congratulated upon their efforts to make their exhibits of Bamboos a great success not only from an educational point of view, but also from that of effect. This is what should be the aim of the council, viz., to afford actual illustrations of whatever subject is to be lectured upon at each respective meeting, and thus impart to the Fellows and the horticultural public every information available. We want to see more of this and less of the every-day flowers and plants such as can be bought from the coster's barrow or from second-rate florists' shops. We are glad to see that a decided improvement is manifest in this direction, owing in a great measure no doubt to the wise action of each committee not to recognise to the same extent those exhibits which from the actual display they make may be very good, but which lack both novelty and variety. Exhibitors will do well to note this, and in the future act accordingly.

Of other exhibits prominence should be given to the hardy flowers, among which the Lilies, Roses, Carnations, and herbaceous flowers were most conspicuous. A most instructive exhibit of Ferns was again contributed by Mr. H. B. May, the genus *Pteris* on this occasion affording a beautiful display. A few examples of the new or rare Water Lilies (hardy vars.) were contributed and duly recognised.

Of fruits, the most prominent feature was the admirably-grown and profusely-laden examples of Gooseberries in pots, with a few plants of early Nectarines in addition. Superb fruits of the choicest dessert Cherries were also shown.

The lecture was one of special interest, being upon "Bamboos," by Mr. Freeman-Mitford, who is a recognised authority on these plants. It was listened to with marked attention throughout. The lecturer dwelt fully with the subject from the utilitarian, the commercial, and the ornamental point of view, expressing his firm conviction that there is a great future for Bamboo culture in this country.

Orchid Committee.

A first-class certificate was awarded to—

LÆLIO CATTLEYA INGRAMI GIGANTEA.—This is not only larger in every respect than the typical form, but it is also remarkably distinct. Very little of the yellow markings and deep purple seen in the typical form is distinguishable in this variety. It was raised by Mr. Seden from *L. pumila* × *Cattleya Dowiana*. The sepals are each 4 inches in length and $1\frac{1}{2}$ inches in breadth, the petals also correspondingly large, deep rose-lilac, veined with a darker shade of colour. The lip is deep crimson-purple, suffused with a darker shade in the centre; the side lobes rose, shading to yellow, with some purple lines at the base. From Messrs. J. Veitch and Sons.

Awards of merit were adjudged to the following:—

MASDEVALLIA IMOGENE.—This is a distinct and pretty hybrid, the result of crossing *M. Schlimi* and *M. Veitchi*. The ground colour of the flower is rich golden yellow, thickly covered with rich purple small spots, the tails yellow, with a rich brown suffusion, the exterior rich golden yellow.

The flowers are produced on erect spikes, after the manner of *M. Schlimi*, and the plant exhibited carried three flowers. The growth has the intermediate characteristics of both parents. From Messrs. J. Veitch and Sons.

LÆLIO-CATTLEYA SCHILLERIANA (Cambridge Lodge variety).—This is a distinct and lovely form of this natural hybrid. The sepals are of a delicate lilac tint, the petals broad, lilac, suffused and lined with purple. The lip is very large and open in front, rich velvety crimson, which is extended into the side lobes and shading to white, with some crimson-purple lines through the throat. A cut spike of two flowers came from the collection of Mr. R. J. Measures, Cambridge Lodge, Flodden Road, Camberwell, where it is flowering for the first time from an imported plant.

Messrs. H. Low and Co., Bush Hill Park, Enfield, sent two finely-flowered plants of *Cattleya Gaskelliana alba*. This is undoubtedly one of the finest of the white *Cattleyas*, the broad beautifully fringed lip, with its delicate primrose throat, forming a remarkable contrast when arranged with the darker section of *Cattleyas*. Two fine forms of *C. Warszewiczii* (gigas), a grand form of *C. Mendeli*, a dark form of *Vanda cerulea* and *Odontoglossum crispum*, with finely-spotted sepals and petals, were also sent (silver Banksian medal). Messrs. J. Veitch and Sons sent a choice collection of hybrids, including *Lælio-Cattleya callistoglossa ignescens* (*C. gigas* *Sanderiana* × *L. purpurata*), in which the sepals and petals are deep rose, of fine form and substance. The large, deep crimson-purple lip, veined with a darker shade of purple, has two distinct bright yellow discs at the base, and is suffused and lined with purple in the throat. In *L.-C. Lucilia* (*L.-C. Schilleriana* × *C. Dowiana*) the sepals and petals are nearly white, slightly tinted with rose, and veined with a darker shade of the same colour. The lip is rich velvety crimson in front, lined with white and yellow in the throat. It is a distinct and pretty hybrid. *L.-C. Amesiana* (*L. crisa* × *C. maxima*), one of the oldest and still one of the most beautiful of this section; *L.-C. Zephyra* (*C. Mendeli* × *L. xanthina*), a pretty form, with the intermediate characteristics of the two parents, the sepals and petals creamy yellow, the front lobe of the lip deep rose, veined and suffused with purple, shading to deep yellow in the throat; *Cattleya Enid* (*C. Mossii* × *C. gigas*), the sepals and petals of fine form, deep rose-lilac, the beautifully fringed open lip deep rose-lilac, veined and suffused with purple, shading to yellow on the disc, which extends well into the throat, where it becomes lined with purple and a bright rose suffusion, were also shown. Messrs. F. Sander & Co. sent *Cypripedium Orion* (*C. selligerum majus* × *C. Rothschildianum*), a distinct form with greenish-yellow ground and purple markings.

Mr. W. Clark, Sefton Park, Liverpool, sent *Cypripedium Mrs. W. Clark* (*C. Ashburtoniae* *expansum* × *C. Stonei*), which closely resembled forms of *C. Morganiae*. Mr. N. Cookson sent *Cattleya Lord Rothschild* (*C. Gaskelliana* × *C. aurea*), having the intermediate characters of both parents. Mr. G. W. Law-Schofield sent *Cattleya Hardyana* (Newhall Hey variety), which was not considered distinct from some of the better forms of *C. gigas*. Mr. De B. Crawshaw sent a remarkable form of *Cattleya Gaskelliana*, the sepals and petals delicate rose tinted, the lip having nearly a white ground, tinted with rose, with the usual yellow in the throat. Mr. W. G. Groves, Windermere, was awarded a silver Flora medal for a grand plant of *Odontoglossum coronarium*. The plant covered a raft 3 feet 6 inches long and 2 feet 6 inches wide and had sixteen bulbs. It bore two spikes of flower, with thirty-one and thirty-four flowers respectively, each flower being upwards of 3 inches in diameter. It was a wonderful example of culture, doing great credit to Mr. Robertshaw, the gardener, who has grown the plant from imported bulbs in a house with other cool Orchids.

Floral Committee.

The following plants received first-class certificates:—

NYMPHÆA GLORIOSA.—A lovely form with handsome flowers of a rich rosy crimson hue. It is a gem among the Water Lilies. From Mr. Leopold de Rothschild, Gunnersbury House, Acton (gardener, Mr. Jas. Hudson).

NYMPHÆA ODORATA ROSACEA.—A sweet-scented kind, with well-formed medium-sized blossoms of a charming flesh-pink hue, the shade of colour almost uniform and extending to the edges of the petals. From Mr. Leopold de Rothschild.

ARUNDINARIA NITIDA.—This is an elegant and beautiful species, and as shown about 6 feet or 7 feet high, a very slender and beautiful kind with lance-shaped leaves, each about 3 inches long, abundantly distributed on the stems and branches. From Messrs. Jas. Veitch and Sons and Mr. A. B. Freeman-Mitford, Batsford Park, Moreton-in-Marsh, Gloucester.

Awards of merit were given to the following plants:—

ROSE SOUVENIR DE MME. LEVET.—This is a most welcome addition to the Tea section despite their numbers and beauty. The flowers of this are of a soft uniform chrome-orange, exquisite in the bud, and the colour well retained in the open flowers. It is a dwarf kind. From Messrs. Wm. Paul and Son, Waltham Cross.

ROSE CHARLOTTE GILLENOT.—An addition to the Hybrid Teas, the flowers large, nearly pure white, the petals reflexed at the tips. From Messrs. Wm. Paul and Son.

BUDDLEIA VARIABILIS.—A distinct and beautiful shrub of which only small flowering sprays were shown. In these the soft lilac-blue flowers were produced in dense clusters on a long spicate raceme. From Messrs. Wm. Paul and Son.

CARNATION LADY SOPHIE.—This, said to be a perpetual flowering variety, bears handsome blooms of a clear rose-scarlet. From Mr. F. Tapper, Sundridge Park, Kent.

CARNATION ISINGLASS.—The finest scarlet Carnation we have seen for a long time, the flowers very large, full and handsome, crimson-scarlet in colour. The petals are like leather, so substantial are they. It is a non-burster and of vigorous growth. From Mr. T. B. Haywood, Woodhatch Lodge, Reigate (gardener, Mr. Salter).

ARUNDINARIA VEITCHI.—This is a large-leaved, low-growing and compact kind, though evidently a good, if not indeed a rampant, grower when in a suitable position and soil. It is scarcely 2 feet high, the leaves each about 8 inches long and the leaf sheaths bristling with hairs. From Messrs. Jas. Veitch and Sons, Chelsea.

PHYLLOSTACHYS CASTILLONIS.—This is one of the most valuable and elegant of this beautiful genus, the real effect of which cannot be determined in the Drill Hall. As shown it is a most elegant bush with lance-shaped leaves, each about 6 inches long and striped with creamy white. From Messrs. Veitch and Sons, Chelsea.

PHYLLOSTACHYS FULVA.—A new species from Japan and certainly a most beautiful form. The habit is elegant, the somewhat one-sided or flat-spreading branches attaining to 7 feet or more high. From Mr. A. B. Freeman-Mitford.

ARUNDINARIA ARISTATA.—This is another elegant and beautiful kind, attaining fully 8 feet high, with branching plumes—a most attractive plant. From Mr. A. B. Freeman-Mitford.

ARUNDINARIA METALLICA.—A new species from Northern Japan, somewhat in the way of *A. Veitchi*, though generally bolder and taller in growth. It also possesses greater hardiness and is unaffected by winter cold, which causes *A. Veitchi* to brown and curl up at the margin of the old leaves. Broadly, therefore, it may be regarded as an improved *A. Veitchi*. From Mr. B. Freeman-Mitford.

PELARGONIUM ACHIEVEMENT.—This is one of the Ivy-leaved section, a fact, however, more apparent in the flowers than in the foliage; indeed, the soft, rather downy character of the

leaves, which also have a slight zone of colour, would suggest a mixture of the zonal *Pelargonium*. The flowers are not unlike in colour those of *Souv. de Chas. Turner*, and therefore of a showy character. From Mr. H. J. Jones, Hither Green, Lewisham.

As befitting the occasion, one of the attractions of this meeting was the splendid collections of Bamboos brought together by Mr. A. B. Freeman-Mitford and the Messrs. Veitch and Sons, Mr. Gauntlett also contributing some splendid examples of rare and beautiful kinds. The collection of these plants from Mr. A. B. Freeman-Mitford (gardener, Mr. J. Garrett) was, however, a most extensive as well as comprehensive one, many of these in large pots reaching to 15 feet or more in height. The group was of infinite interest, not less so from the fact that it contained several kinds not previously seen at any exhibition, while a few not hardy at Batsford were so labelled that no false impression concerning them could gain ground. The entire collection was in the best possible health and many of the examples in good specimen form. As a whole, therefore, this group may be considered unique. Among the varieties of *Phyllostachys* we noted *P. nigra*, *P. nobilis*, a well-named kind that when established attains 20 feet or 30 feet high; *P. Quiloi*, *P. Boryana*, *P. Henonis*, perhaps one of the gems of this excellent race; *P. flexuosa*, a well-named and distinct kind; *P. mitis*, *P. ruscifolia*, a dwarf plant, quite distinct, though less beautiful than the majority; *P. fulva*, a new species, &c. Then among *Arundinarias* we remarked *A. cristata*, a most elegant form, 7 feet high; *A. auricoma*, with golden striped foliage; *A. racemosa*, with rich graceful plumage, not previously exhibited; *A. metallica*, a promising kind in the way of *A. Veitchi*; *A. pygmaea* and a seedling plant of *A. Leydekeri*, which, though scarcely an inch high and occupying a 2½-inch pot, was replete with interest from the fact that it has been raised from seed saved at Batsford in the open, a position in the Cotswolds some 750 feet above sea-level. The Bamboos included *B. disticha*, *B. angustifolia*, *B. quadrangularis*, *B. marmorea* and others. Among those labelled as not hardy in Mr. Mitford's garden are *Arundinaria falcata* and *A. Falconeri*, the latter a singularly elegant species with spreading habit. This unique collection received the gold medal of the society. Another beautiful collection of Bamboos came from Messrs. Veitch and Sons, Chelsea, and included many fine things, the most telling being *Bambusa marmorea*, *B. palmata*, *B. disticha*, *B. Alphonse Karr*, *B. Nagashima*, &c., while of the *Arundinarias* there were *A. nitida*, *A. Hindsii* graminea, *A. Simoni*, a fine plant 15 feet high, *A. japonica*, &c., the *Phyllostachys* including such as *P. nigra*, *P. viridis glaucescens*, *P. Ragamowski*, *P. Henonis*, *P. Castillonis*, *P. Kumasasa*, and others of equal interest (silver-gilt Flora medal). Another set of these came from Mr. T. S. Ware, Tottenham, and here we noted *Bambusa tessellata*, *B. pygmaea*, *B. Nagashima*, *B. palmata*, *B. quadrangularis*, &c., the best *Phyllostachys* being *P. violascens*, *P. aurea*, *P. Castillonis*, *P. nigra*, *P. verticillata*, &c., for which a silver Banksian medal was awarded. Another lot came from Mr. V. N. Gauntlett, Redruth, Cornwall, who had examples of several kinds that towered to 25 feet high. These, however, were either cut or lifted pieces, and included such as *Arundinaria nobilis*, *A. Simonsi*, both giant growths, *A. Falconeri*, &c., with *Phyllostachys sulphurea*, *P. nigra*, *P. aurea* and others (silver Banksian medal).

A very pleasing circular group of *Caladiums* in many of the leading kinds came from Mr. R. Hoffman, Thurlow Lodge, West Dulwich, the plants compact, well grown and coloured (silver Flora medal). Cut Roses from Messrs. W. Paul and Son, Waltham Cross, were again a feature, attracting much attention both by their numbers and variety. The blooms for the most part were shown in large masses in circular baskets or the like, that displayed their merits to advantage. Among the prominent kinds, *Enchantress* is ever to the front. This kind has been present at every

meeting for weeks past, and is now as good as ever. Other good sorts were *La France*, Mme. Joseph Bonnaire, a fine pink; *Lady Mary Fitzwilliam*, Mme. Jules Grolez, a beautiful rosy peach, the buds long and well formed, the petals recurving deeply and giving it a most distinct appearance; *Marquise Litta*, *Belle Siebrecht*, *Marquis of Salisbury*, *Souv. de Lady Ashburton* (Tea), yellow and rose; *Perle d'Or*, *Souv. de C. Guillot*, dark red and orange; *Captain Christy*, *Camcoens*, *Louis van Houtte*, fine crimson, &c. (silver Flora medal). Several boxes of Rose blooms came also from Mr. C. J. Grahame, Leatherhead, and here the flowers of *Comtesse de Nadaillac* were especially good, some of them among the best we have seen this season, while *Maman Cochet*, Mrs. John Laing, *Alfred Colomb*, *Prince Camille de Rohan*, and *Horace Vernet* were all of merit (silver Banksian medal). A fine collection of Cacti from Messrs. Cannell and Sons contained a remarkable assortment of these beautiful, singular subjects, some of them exceedingly minute, others very striking or picturesque. Among the latter may be counted *Pilocereus senilis*, with a sort of silken or hoary beard, completely enveloping the plant. The group was replete with *Opuntias*, *Gasterias*, *Haworthias*, and others, all in excellent condition (silver Flora medal). From Edmonton Mr. H. B. May again brought an assortment of beautiful Ferns, composed on this occasion of some 100 species and varieties of *Pteris*, one of the most useful groups for decoration. Some of the more distinct and beautiful are *P. serrulata plumosa*, *P. s. fastigiata*, *P. s. Applebyana*, *P. incisa*, *P. Victoria*, *P. leptophylla*, *P. tremula Smithiana*, *P. t. flaccida*, *P. t. concinna*, *P. Wimsettiana minor*, and *P. Regina corymbosa*, groups of *Bouvardia* Queen of Roses and *B. jasminoides* occupying the ends. A fine basket of Carnation Countess of Newark, a clove-scented kind with crimson flowers, was also shown (silver-gilt Banksian). The Messrs. Dobbie and Co., Rothesay, had an extensive arrangement of cut flowers, especially of Tufted Pansies, Sweet Peas, and hardy flowers generally. Among the perennials were the double white *Campion* (*Lychnis vespertina plena*), pure white and fragrant as a Pink; *Gaillardia grandiflora maxima* (very fine), *Eryngium amethystinum*, *Scabiosa caucasica* and *alba* (both charming plants for the border or for cutting), *Lychnis chalcidonica*, *Achillea* The Pearl, *Sidalcea malviflora* Listeri with pink blossoms deeply fringed, *Campanula pyramidalis*, &c. Sweet Peas were beautiful and very numerous and Tufted Pansies abundant, though we have seen them shown in much fresher condition by the same firm. Annuals were delightful. Among *Godetias*, *G. Duchess of Albany*, a pure white, was very fine, a similar remark applying to the white and yellow *Sultans* (silver Flora medal). The Messrs. Wallace and Co., Colchester, again brought a splendid assortment of the best Lilies in season, such as *L. speciosum album novum*, the grandest of the white forms of *speciosum*, *L. dalmaticum*, *L. pardalinum*, *L. excelsum*, *L. Henryi*, *L. Humboldtii magnificum* (a really splendid form), *L. odorum* with trumpet blossoms of a creamy hue, irregularly blotched on the outside, the more beautiful and refined *L. Browni*, with chocolate exterior and white within; *Watsonia O'Brieni*, *Michauxia campanuloides*, *Alstroemerias*, *Hemerocallis aurantiaca major*, many *Brodieas* and *Calochortis*, *Calla alba maculata*, and good batches of such Carnations as Mrs. Muir, Ketton Rose, *Duchess of Fife*, Mrs. Audrey Campbell, &c. (silver Banksian medal). Hardy cut flowers were well shown by Mr. Maurice Prichard, Christchurch, who had fine bunches of *Platycodon grandiflorum* and *P. g. pallidum*, *Spiraea gigantea*, *S. Aruncus*, *S. palmata*, *S. palmata alba*, *Montbretia crocosmiflora*, *Dianthus Napoleon III.*, *Menziesia polifolia alba*, *Delphinium belladonna*, *Lilium chalcidonicum*, *Scabiosa caucasica alba*, *Gentiana tibetica*, a greenish white flower, very large truss; *Zygadenus elegans*, a curious little plant, several good *Phloxes*, handsome fruiting branches of the scarlet Elder, *Sambucus*

racemosa, a splendid tuft of *Astilbe Silver Sheaf*, a very handsome and striking plant of erect habit and with plume-like panicles of buff-white blossoms. The most striking plant, however, was *Campanula mirabilis*, recently certificated. The example now shown by Mr. Prichard was a highly creditable one, being almost 15 inches high and forming a perfect pyramid of delightful pale blue blossoms (silver Banksian medal). A small collection of hardy things from Mr. A. Perry, Winchmore Hill, included *Geum montanum*, *Inula ensifolia*, *Itea virginica*, *Helenium pumilum magnificum*, *H. grandicephalum*, very fine; *Chrysanthemum maximum magnificum*, and the pretty little *Amarylloid*, *Placea ornata*, a small white flower, with scarlet lines running down the segments. Messrs. A. W. Young and Co., Stevenage, also brought a mixed arrangement of cut flowers, such things as Sweet Williams and *Gaillardias* predominating. Several *Campanulas* were also shown, especially *C. carpatica alba* and the double white, *C. persicifolia alba plena*. These with *Coreopsis* and the early *Aster*, *A. Bigelowi*, were the most noticeable things.

Hardy flowers as usual came from Messrs. Barr and Sons, Covent Garden, who staged a somewhat comprehensive mixed group of, for the most part, showy subjects. In this group *Iris Kämpferi* was largely shown, the white and rich purple shades being conspicuous. Several charming plants in flower of the lovely *Romneya Coulteri* attracted much attention, as did also the improved form of *Heuchera sanguinea* called *grandiflora*. *Bocconia cordata carnea* is distinct, and the creamy white *Astilbe Thunbergi* Backhousiana is very pretty. *Phloxes*, *Gaillardias*, *Potentillas*, and varieties of *Chrysanthemum maximum* were shown in plenty, likewise *Coronilla varia*, other pretty things being *Atragene alpina*, *Jasione perennis*, with *Phyteuma*-like heads of blue, *Platycodon Mariæi*, &c. (silver Banksian medal). Hardy flowers were also set up by Mr. T. S. Ware, Tottenham. In this group were many beautiful Lilies, such as *parvum*, *auratum vittatum* and a *platyphyllum*, *Humboldtii*, the richly-coloured *nepalense*, *Browni* and *odorum* in plenty, so that the relative merits of each could easily be seen, *dalmaticum*, *giganteum*, with several huge pendent white flowers, *Bloomerianum*, *magnificum*, &c. Quite a host of the best border Carnations was shown in bunches, and a few perennials, most of which have, however, been mentioned, save *Alstroemeria pelegina alba* and *Argemone hispida*, with handsome white Poppy-like flowers. The Messrs. Cutbush likewise had hardy flowers mingled with Carnations of the border and Malmaison sections, the whole arranged as an undulating bank. Of the former, *Campanula lactiflora*, a very showy plant with immense panicles of blue, also *C. carpatica alba*, *Francoa appendiculata*, *Campanula persicifolia coronata alba* were noticeable. In border Carnations, *Santiago*, buff-yellow, *S. G. Brooks*, fine yellow ground, *Mary Morris*, *Isla*, *Voltaire*, Mrs. Eric Hambro, and others were noted, while Princess of Wales and the blush kind well represented the Malmaisons (silver Banksian medal). A fine collection of Carnations came from Messrs. James Veitch and Sons, and contained all the best kinds in commerce. Among the whites, *George Macquay* and Miss E. Terry were especially good, the former of fine form and substance; *Little John*, scarlet, *Cardinal Wolsey*, fancy, *Her Grace*, *Sea gull*, *Pandelli Randi*, and *Lady Ridley* being among the best in a numerous set. The same firm contributed a fine bank of annuals, such things as *Malope grandiflora* and *Lavatera trimestris*, in many exquisite shades, being most conspicuous. *Stock* Princess Alice, pure snow white, is grand. *Shirley Poppies* of an excellent strain, *Clarkias*, *Eschscholtzia crocea alba*, *Leptosyne maritima*, *Chrysanthemum Burridgianum*, and others were also shown in excellent and attractive bunches. Sweet Peas were also numerous and good (silver Banksian medal). Messrs. Sander and Co., St. Albans, had a group of *Acalyphas*, in which A.

Sanderiana (syn., *A. hispida*) was prominent, *A. Godsetiana* being also shown; the new *Palm*, *Licuala Jeaneyi*, and *Caladium Ami Schwartz* were also included, while *Fourcroya Watsoniana*, with handsome silver-lined leaves each 2 feet long, was very telling as an isolated example. The Messrs. Carter and Co., High Holborn, had a most extensive assortment of Sweet Peas, of which the most noticeable were Countess of Powis, bronze-pink, Grey Friar, Little Dorrit, Splendour, Mrs. Joseph Chamberlain, Meteor, Her Majesty, Primrose, The Bride, Katherine Tracey, Mrs. Eckford, and Salopian. A smaller group of novelties came from Mr. Eckford, Wem, Salop, who put up bunches of *H. F. Bouverie*, pink and white; Mrs. Dugdale, rose; Sadie Burpee, white; Duchess of Westminster, buff-pink; and Robert Hood, dark crimson-amaranth. Several lovely Water Lilies were shown by Mr. Jas. Hudson, gardener to Mr. Leopold de Rothschild, Gunnersbury House, Acton, the most notable of which are already given. Other excellent things, however, were *Nymphaea tuberosa* sp., pale white and very large, with conspicuous yellow centre and giant leaves nearly 18 inches across, which without flowers are exceedingly handsome, and *N. sanguinea*, a rather small, but richly coloured flower. Mr. F. W. Campion, Colley Manor, Reigate (gardener, Mr. J. Fitt), brought some three dozen bunches of *Rose Crim-son Rambler*.

Fruit Committee.

New Strawberries and Melons were plentiful, but few awards were given. Messrs. Veitch and Sons had a fine lot of Gooseberries in pots, also Nectarines and Currants, with fine fruits of gathered Cherries and Strawberries. Vegetables also were shown in quantity, Peas being of great merit.

First-class certificates were given to the following:—

CHERRY EARLY RIVERS.—This has been many years in commerce, but never certificated. It is a splendid black fruit, early, and very richly flavoured. From Messrs. Rivers and Son, Sawbridgeworth.

PLUM EARLY TRANSPARENT GAGE.—A well-known large, round Plum of a greenish colour, with crimson spots, flesh firm, juicy, and of excellent flavour. It is a free bearer. From Messrs. Rivers and Son.

Awards of merit were given to the following:—

STRAWBERRY LADY SUFFIELD.—A medium-sized fruit with dark red, firm flesh. The shape is conical, not unlike that of Lord Suffield, the flavour being very rich and distinct. From Mr. Allan, Gunton Park, Norwich.

RASPBERRY GOLDEN QUEEN.—A seedling between Raspberry Superlative and *Rubus laciniatus*. It is a large yellow fruit, freely borne, and of good flavour. From Messrs. Veitch and Sons, Chelsea.

A remarkably fine collection of Gooseberries, trained trees, nearly 100 in all, came from Messrs. Veitch, Lim., Chelsea. The trees were laden with fruit. Here could be seen the cream of the varieties. Among the reds, Clayton Beauty, Duke, Forester, Speedwell, and Napoleon le Grand were very fine, Gipsy Queen, Hue and Cry, Pilot, and Trumpeter being the most noticeable among the yellows. There was less variety in the green section, Matchless and Surprise being good, with excellent trees of Freedom, Mitre, and Progress in the white varieties, the small dessert section also being well represented. Some half-dozen varieties of Currant trees in pots were staged, the best being Mammoth, Warner's Grape, White Dutch, Red Dutch, and Raby Castle, with trees of *Précoce de Croncels* Nectarine. The same firm had another exhibit of gathered fruits in another part of the hall, including large baskets of Veitch's Perfection, Latest of All, Bieton Pine, Frogmore, Loxford Hall, Oxonian, Lord Suffield, and Waterloo Strawberries, with Cherries of well-

known kinds (silver-gilt Knightian medal). Messrs. T. Rivers and Son, Sawbridgeworth, sent a small, but remarkable collection of fruit, including splendid Belgian Purple and Transparent Gage Plums, May Duke, Bigarreau Napoleon (immense fruit), Ludwig Bigarreau, Bigarreau de Schrecken, Savés de Burr, Hâtive de Boulbon, and White Bigarreau Cherries (silver Banksian medal). Messrs. Laxton Brothers, Bedford, sent a new Strawberry Trafalgar, a large, nice-looking fruit, the result of crossing Elton with Waterloo, but the fruits were too soft in the committee's estimation. Very heavy fruiting plants of their new Fillbasket were sent. This is an enormous cropper. Mr. Allan sent Lord Suffield Strawberry to show its late fruiting qualities, also a new Melon, Gunton Seedling. From the Royal Gardens, Frogmore, Mr. Thomas sent eight large fruits of a Melon named Lord Edward Cavendish, but lacking flavour. Mr. Carmichael, Pitt Street, Edinburgh, sent his new Strawberries, Princess of Wales, Britannia, Queen of Denmark, and Richard Gilbert, but these were not considered any advance on existing varieties. Mr. Divers, Belvoir Castle Gardens, Grantham, received a cultural commendation for very fine Strawberries, the varieties being Dr. Hogg, Waterloo, and Gunton Park. A new Raspberry, named Old Gold, was sent by Mr. Maher, Yattendon Court, Newbury, but the fruits were all smashed in transit. Mr. Becker, Jersey, sent Red Currant Comet and a new Gooseberry, Trouville Giant. The Currant sent was thought to be very like La Versailles. Mr. Eckford, Wem, Salop, sent some half-dozen varieties of Peas. Monarch was a very good 2-feet variety; Rex, 5 feet; Philip Crowley, 5 feet; Wem, 5 feet; and Consummate, 2 feet. All were desired to be sent to Chiswick for trial. Messrs. W. W. Johnson, Boston, Lincoln, sent fifty dishes of Peas, excellent in every way. Critic, Prince Edward, Royal Jubilee, Late Queen, Conqueror, Duchess, Ebor, Prolific Marrowfat, John Howard, and Memorial were the best (silver Banksian medal).

Meeting at Chiswick.—The fruit committee met at Chiswick on the 22nd to examine the Peas and Potatoes. Out of some thirty stocks of early varieties of Potatoes only four received favourable notice by the committee. These were cooked to test flavour, but the tubers were not ripe. Leader, from Mr. Myers; Ninetyfold, from Messrs. Sutton; Pirremont Seedling and McKinley's were the varieties tried. These are to be given another trial to test quality early next month. The committee examined a new Lettuce named Crystal Cabbage. This was given an award of merit on July 5, and not a single plant had run since then. It is a very fine type, hearts firm and sweet. It was now recommended for a first-class certificate as a valuable summer Lettuce. It is of the Neapolitan type, leaves slightly fringed and tipped with brown.

The following awards of merit were recommended and confirmed on the 26th:—

TURNIP NEW MODEL.—A very shapely root, flesh white and solid. It is a good summer variety, not unlike Snowball, but with a longer tap root. It has a rather large top and is above medium size. From Messrs. Watkins and Simpson.

PEA THE BRUCE.—This is a 5-feet Marrow Pea, pods very large and freely produced. It is a very fine mid-season variety. From Mr. Eckford, Wem, Salop.

PEA PRIOR.—A 4-feet variety with deep green large pods of splendid quality. It is a very free cropper, the pods being produced in pairs to the bottom of the haulm. From Mr. Eckford.

PEA CONTINUITY.—A late and heavy cropping Pea, the pods mostly borne in pairs and of a deep green colour. It has a rich Marrow flavour, and is one of the best dry weather Peas grown at Chiswick. From Messrs. Sutton and Sons, Reading.

PEA HARTFORD'S SUCCESS.—A 3-feet variety of strong growth, having medium-sized pods well filled with deep green Peas, with a distinct

Marrow flavour. From Messrs. Nutting and Sons, Southwark Street, London, S.E.

PEA MANSFIELD SHOW.—A very fine 3-feet Marrow, pod very full and of a beautiful colour. It is an enormous cropper and an excellent main crop variety. From Messrs. Wright Brothers, Mansfields, Notts.

PEA HONEYDEW.—A 2-feet Marrow variety. It is a mid-season Pea, pod large with seven to nine Peas of a deep green, and excellent in quality. It is a strong grower and very prolific. From Mr. Sims, Fyvie, Aberdeen, N.B.

PEA SACCHARINE.—A 4-feet variety, pods of medium size and well filled with Peas of remarkably fine flavour of the Ne Plus Ultra character. It is a splendid cropper and a free grower. From Mr. Sims.

Books.

PANSIES, VIOLAS AND VIOLETS.*

THIS is one of "Dobbie's Horticultural Handbooks," edited by Mr. W. Cuthbertson, F.R.H.S., and a very feeble production on a very interesting subject which worthily treated might form a charming book. It begins with a "historical introduction" by the editor, in which he assumes that the Pansy, cultivated as we know it, is simply *Viola tricolor*, and he thinks that earlier than the present century there seems to have been no effort made to develop that wild plant beyond "the superior cultivation which would naturally follow transference from the field to the garden." Now, transferring *Viola tricolor* from the field to the garden would make very little change in it indeed; and, a good many years before, Shakespeare spoke of "Pansies streaked with jet," which could not arise by simply transferring the common little field *Viola* to the garden. We may tell Mr. Cuthbertson that botanists of the highest mark and knowledge of living plants, like the late T. Boswell Syme, did not take that view of the origin of the Pansy. Passing over the origin of the Pansy in this way, of course the author does not touch upon such interesting questions as the origin of the Neapolitan Violet as distinct from the varieties of *Viola odorata*. There is a chapter on the botany of the Pansy in which all sorts of subtle things, useless from a garden point of view, are gone into, but no description is given of the many interesting wild species of "*Viola*" which adorn the mountains of the northern world, Europe, North and South America and Asia, some of the most beautiful being wholly omitted from the book, like our beloved Bird's-foot Violet.

With this neglect of the wild species of "*Viola*" there is also neglect of the improved races of Pansies, such as the beautiful kinds that come to us from Luneberg, in Germany, which are among the most refined and delightful in colour of all. The use of Tufted Pansies in rock gardens is not mentioned, though we think this is the most important of all their uses; also the important fact, probably not known to the author, that in the southern counties, where the Pansy is so apt to die off in hot summers and from various causes, it can be successfully cultivated on stone walls. Much prominence is given to what is called the "fancy" and other ugly and useless Pansies, which are only of the slightest importance except to those who show their flowers at exhibitions. Naturally, much notice is taken of the Pansy for exhibition, though it only concerns a few people who generally give each other prizes. Taking no notice of the beautiful members of the genus, naturally the book conforms to the ignorant use of the word "*Viola*" as applied to garden varieties, and says the term *Viola* "has done duty for years without much, if any, inconvenience," and this in the face of the perennial farce of the gardener having to explain to the lady the differ-

* "Pansies, Violas and Violets." (Macmillan and Co., London.)

ence between Pansies and Violas. Then the author goes on to explain the difference himself in the following way:—

Violas, as distinct from Pansies, are much more floriferous; most of them are more compact in habit and more perennial in their nature, and consequently much better adapted for bedding. Their blossoms are often sweetly scented; they never have blotches similar to Pansies, and they are generally more elongated than round in their form.

There is scarcely a line of the above which is not open to objection, and the author takes no account of the rule of the botanists as to nomenclature, or of the fact that the genus contains no less than 300 to 400 species adorning the mountains, prairies, and woods of the world, or of the fact that these so-called Violas of his are just as much hybrids as the common Pansies, and should be classed as such, as they were indeed so classed by their earlier raisers, who called them "bedding Pansies."

The art of wiring the unhappy Pansies is explained, but nothing said about simpler and more artistic ways of using the Pansy in the house.

Each individual flower should have a fine wire carried alongside the stalk, the other end being pushed into the spur or calyx; sometimes the wire is hooked at the top and made to catch over the bend at the top of the flower-stalk. The wire is bound gently to the flower-stalk by means of a piece of knitting cotton or wool soaked in water. This much being done, no great difficulty will be experienced in making the blooms into a spray, and working in among them some small pieces of foliage. The best way to learn the process is to get a well-made spray from an exhibitor after a show and take it home, and take it carefully to pieces and remake it—or, what is better still, get a practical lesson from a lady or gentleman who is an expert! [The italics are ours, as it is funny to think of a lady or gentleman wiring a Pansy!]

A child who gathered a bunch and put it in its mug would do far better. But the delusion of all these exhibiting people is to mistake themselves for the world, which has too long put up with their absurdities. Nor can we look for much light from them for the garden and its lovers. Even from their own point of view their ways are stupid, as the wired Pansies at their shows, crucified as they are on their little stands, wither up in a few hours, even when water is thrown over them by an attendant, as might have been seen in many instances at the Crystal Palace show. But when one of them writes a book on the subject for public use, we have the right to expect something better than this, and one in which the large natural genus "*Viola*" should be described, at least so far as the wild species have any claims to beauty.

NOTES OF THE WEEK.

Ivy-leaved Pelargonium Galilee is perhaps one of the showiest in this very useful group, the flower-trusses abundant and large and the warm rosy-pink shade very attractive.

Carnation Mrs. Frank Watts.—Though an old variety this is still a fairly good one, surpassing in some respects other whites of more recent date, and as a dwarf bedding white it is most useful. The flowers are not of the largest size.

Rose Her Majesty.—Quite recently in a river-side garden we noted this handsome Rose doing well as a standard, the tree having been planted some two years ago. The blossoms were very handsome and large; indeed, both for size and colour these were of the finest possible description, creating a rich display as the huge flowers spread out to their full size.

Fuchsia Ballet Girl.—This free-flowering kind appears one of the best of the double white varieties—that is to say, the corolla is double and very pure white, the sepals being of a rich decided scarlet. So far as the habit is concerned, this leaves but room for small improvement, and the growth generally being compact, a first-rate habited plant is the result.

Verbena Ellen Willmott is one of the largest of the pink kinds, the trusses of fine form, the pips individually large, making up a very showy head of

bloom. Several beds of this new kind may now be seen in Messrs. Veitch's nursery at Chelsea approaching to perfection. In a few days a sheet of bloom will result.

Oenothera speciosa is now one of the showiest of the Evening Primroses, valuable indeed from the fact that it is a good perennial, as also a free and profuse bloomer. The large handsome flowers are at first nearly pure white, changing, however, to a soft or delicate rose shade as they advance to maturity, thus producing a very pretty effect where large groups exist in the garden.

Carnation Alice Ayres.—Had this been a self-coloured variety, either white, scarlet, or crimson, it would have taken a deal of beating—at least from the point of view of free flowering. In a very large collection of border kinds this well-known striped Carnation surpassed the majority of both old and new sorts by the great mass of expanded flowers open at one time—an undoubted recommendation where such things are freely employed.

Carnation Ruby Castle.—Where a good, useful, hardy and free-flowering pink Carnation is required for the garden, this old and well-known variety is still of much value, and this in spite of the deep saw-edged petals. It is not affected by the sun when planted in exposed parts of the garden. The way that some kinds suffer in this respect, e.g., *Duchess of Fife*, robs them of much of their value unless it be in positions where the sun does not reach the plants.

Aquilegia Stuarti.—Dr. Stuart's hybrid Columbine is not often seen in good health and often fails to establish itself in gardens. When in Ireland in June I saw some very pretty plants of this *Aquilegia*, but none equalled about half a dozen, seen shortly before, growing in the gardens at Cavens, Dumfries, N.B. The plants were large and produced freely the exquisitely coloured flowers one so much admires.—S. ARNOTT.

Erigeron mucronatus.—The true *Erigeron mucronatus* of Mexico is, I believe, quite different from the *Vittadenia triloba* (*V. australis*), the well-known Australian and New Zealand plant to which "S. W. F." evidently refers on p. 69 (July 23), and which is usually and more correctly known as the New Holland Daisy. If "S. W. F." is really referring to the true Mexican Daisy (*Erigeron mucronatus* of De C.), I shall be glad of a specimen.—F. W. B.

Netera depressa.—This is one of those interesting plants whose blooms are rarely seen; yet when the flowering is past and the fruits begin to show colour it is quite another plant, the dense dwarf carpet of leaves transformed to a bed of orange-scarlet. It is then that the plant attracts attention, for the berries remain in good colour for a very considerable time. As a pot plant in the greenhouse when the fruits are ripe the plant finds many admirers.

Martagon Lilies at Kirkconnel, Newabbey, N.B.—The old double Martagon Lily has been grown for many years in the interesting garden at Kirkconnel, and it is seldom that one sees it in such quantity or doing so well. Other forms are also grown, and *L. Martagon* var. *dalmaticum* is growing very vigorously and promises to be even more at home than the others. One fine plant was very beautiful, the round ball-like buds being beautifully coloured and covered with a snow-like tomentum.—S. ARNOTT.

The old Roses at Kirkconnel, N.B.—Last week I had again the pleasure of seeing the old garden Roses at Kirkconnel, Newabbey, N.B., of which Mrs. Maxwell-Witham gave an interesting account in *THE GARDEN* some years ago. Some were nearly over, but the great bushes of many were very beautiful with their bright and fragrant flowers produced in almost endless numbers. Very beautiful was one known at Kirkconnel as *Swiss Boy*. Its graceful habit and crowds of pale pink or blush flowers deliciously fragrant made it quite a feature.—S. ARNOTT.

Begonia Fairy Queen.—This is one of the hybrid semperflorens class, and a charming plant either for pots or for the flower garden. The sturdy, compact growth is not more than a foot above the pot, and furnished with half a dozen main branches besides numerous laterals, with not a stick or tie among the dozens of plants seen. It is indeed an ideal type, wherein fine habit and free flowering are combined. It is one of the many charming things which have originated with the Messrs. Sutton, of Reading.

Two beautiful bog plants.—Herewith I have pleasure in sending you a bunch each of

Pyrola rotundifolia and *Epipactis palustris*, both of which are growing here in our sandhills in the greatest profusion. I have never seen them so fine. They grow in rather wet places between the sandhills. At present the whole place is full of them. The *Epipactis* does best among the tall grass, while the *Pyrola* likes a somewhat exposed position, in some places covering many square yards.—W. H. STANSFIELD, Southport.

Abutilon Golden Fleece.—For its free flowering as much as for its colour this is perhaps one of the best kinds ever raised. Several varieties may be noted for freedom of flowering, but they cannot compare with the above in the continued display of blossoms, with no apparent diminution in size and no apparent distress from the great number already borne. Planted out in the conservatory, where a little freedom of growth can be given, it is one of the showiest of flowering plants for months in succession.

Tufted Pansy A. J. Rowberry, seedlings from.—During the last few days several promising seedlings from this rich yellow rayless variety have been in particularly good form. Unlike many other Tufted Pansies, flowers of this colour and texture appear to revel in the somewhat heavy and unless weather which has prevailed in the suburbs, and the blossoms, which during bright weather often get scorched and blistered, have been almost free from this blemish and have formed a welcome contrast to those of other varieties now flowering freely.—D. B. C.

Plagius grandiflorus.—Some experience difficulty in retaining this singular-looking rayless composite in their gardens. In the garden of Captain Stewart, of Shambellie, Newabbey, N.B., it is doing well, and appears to stand the prevailing drought better than many other plants. It is also known as *Balsamita grandiflora*, but as *Plagius* is now merged in *Chrysanthemum*, one is at a loss to know its specific name in the *Chrysanthemums*, unless it is *C. grandiflorum*—not, of course, the plant usually grown under that name, but *Willdenow's grandiflorum* from Northern Africa.—S. ARNOTT.

Pentstemon lævigatus.—This distinct hardy *Pentstemon* is at present in full bloom in the garden of Mrs. Maxwell-Witham at Kirkconnel, Newabbey, N.B. It was received under the name of *P. digitalis*, but I find on reference to the "Index Kewensis" that the latter has been superseded by Aiton's name of *lævigatus*. *P. digitalis* is Nuttall's specific name, and is not inappropriate, the long spike of whitish flowers being not unlike that of a small Foxglove. At Kirkconnel this *Pentstemon* grows about 2 feet high and is quite hardy. So distinct a species is deserving of being more largely grown.—S. ARNOTT.

The Flame Flower (*Tropæolum speciosum*).—Those who think this brilliant plant will only grow in moist soil or in shade should see it in Captain Stewart's garden at Shambellie, Newabbey, N.B. The garden is dry, and here the Flame Flower becomes a weed and has to be cleared out as opportunity offers. Among the Gooseberry bushes it becomes rampant, and in a bed of Ferns it disfigures the fronds by preventing them from expanding in their usual way. Pretty effects are, however, at times made by its efforts to ascend by means of other plants. One of these is shown on a good plant of *Cimicifuga dahurica*, up which it has climbed, the brilliant flowers of the *Tropæolum* being charming when seen with the creamy white plumes of the supporting plant. The more one knows of the *Tropæolum* the more he inclines to the opinion that in even dry soil it can be induced to grow provided it can once obtain a firm hold. When it begins to run underground it soon makes headway and grows rapidly.—S. ARNOTT.

Names of plants.—C. L.—*Lycium barbarum*.—Mrs. C. Boyd.—*Epipactis palustris*.—J. R.—*Pteris cretica albo-lineata*.

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THE MARKET GARDEN.

KENTISH FRUIT CROPS.

CURRENTS.

THE extensiveness of the Kentish fruit industry is apparent right through the county from the time that green Gooseberries find their way into the market till the Apples and Pears have been disposed of. At every railway station in fruit districts are to be seen piles of round baskets, full and empty. Not only is the fruit carried by special trains, but the ordinary passenger traffic is augmented by fruit vans. In addition to the piles of round baskets, wooden tubs and earthenware vessels pass backwards and forwards from fruit field to market, showing that trade in soft fruits is now approaching its height. Writing at the beginning of August, some fruits have to a great extent been disposed of. Fields that a few weeks ago were red with Strawberries now present a somewhat bare and untidy appearance, and so they will have to remain till the rush of other work is over and they can be put in order ready for another season. Early Cherry trees have been stripped and many Gooseberry plantations have been picked over for the last time, and tubs and jars are now in demand to convey Currants and Raspberries to market. Both these fruits have their favoured localities, though the cultivation of the former is more generally distributed, and it is to the Currant crop that I shall confine my present remarks.

Though Currants, Red, Black and White, are grown in every garden of any pretensions in the kingdom, it is in Kent that they are treated as a commercial crop, and Kentish fruit in a raw or preserved form finds its way to all parts of the country. Black Currants in localities where they succeed are among the most profitable crops cultivated by Kentish fruit growers. Every season shows a demand for this luscious fruit, and generally prices run high. It is

rather too early at the time of writing to speak of the state of the markets this season, but everywhere there is an abundant crop of splendid fruit. Cultivation does much towards the production of the finest samples, but suitability of soil and aspect do more. As Black Currants are grown everywhere, this is evidence enough that they do not require any special soil to grow and fruit moderately, but when one comes to compare berries from other districts with the best Kentish productions grown under ordinary rules of cultivation, he sees at once the advantages of soil and situation. On sloping hillsides and in fertile valleys acres of Black Currants are grown under standard Apple and Plum trees, and are looked upon by many growers as their staple crop. It does not follow that where Gooseberries and Red Currants are grown in large quantities Black Currants will also be found. It is so in some instances, but in one particular locality I am acquainted with, where the soil is a light, sandy loam and grows Gooseberries and Red Currants to perfection, it is rarely one sees a Black Currant plantation. Aware of their superior qualities for market, growers have tried them, but the result has been partial disappointment, for, in order to pay their way, bushes must not only grow and fruit freely, but they must produce berries equal to the best from other districts. This is one feature of the Kentish fruit industry. One locality has a reputation in the market for a particular kind of fruit, and it is there where salesmen look for their supplies. Thus Strawberries, Raspberries, Cherries, Gooseberries, Currants, and so forth have their own districts, and fruit produced from any other locality must be of equal quality and in sufficient quantity to merit its giving a substantial return in the market. Last year the Black Currant crop was uneven, and returns varied in consequence, though the advantage was reaped by those having a good supply of fruit, as prices ruled high. Though crops this season are generally good, growers do not fear the glut, for, unlike some other fruits, the

returns are invariably sufficient to render the crop a profitable one.

The Kentish grower has learnt his methods of cultivation in the best of schools, viz., that of long experience; and though here and there one sees the work of a dilatory farmer who holds the wrong impression that good working and systematic pruning are not of the greatest importance, yet, as a whole, the plantations are kept well worked, the bushes fed with manure, and the old wood is every season removed on an approved method to make way for the young healthy shoots from the base of the bushes which produce the finest of fruit. Baldwin is the most popular variety, though Lee's Prolific and Black Naples are also grown. When treated on the soundest principles, plantations of Black Currants last many years when grown alone or as an intermediate crop between Apple and Plum trees. With all bush fruit surface cultivation during the summer, not only to keep down weeds, but to prevent evaporation, is an important item, and all the best plantations are dug and manured in the early spring.

Black Currant growers have one dreaded enemy, which is, unfortunately, increasing, viz., the bud mite (*Phytoptus ribis*). So little is known of the life history of this pest that at present no one appears to know how to successfully combat it. In Scotland I understand Black Currants have almost ceased to be a commercial crop on account of this dreaded pest, which has only been known in Kent during recent years, where it was probably introduced through the medium of infested plants. Most growers from bitter experience are becoming alive to the presence of this enemy, though no doubt it gained headway before its presence was actually known, or anyone knew the amount of damage it is capable of doing. I am acquainted with one grower in the Isle of Sheppey who relied almost entirely on his Black Currants, and his plantation produced some of the finest fruit I have ever seen. The unnatural swelling of the buds caused him no alarm when it first appeared a few seasons ago,

as he was unaware of the cause of it, and thought a few of the buds were prematurely swelling on account of the mildness of the season. Matters grew worse, and the man naturally became alarmed; but it was too late to apply a remedy, as almost every bud became infested, and last year he was obliged to root up and burn every bush in his plantation, which is several acres in extent. The loss to him is very serious, and similar instances could be named of growers who have good reason to deplore the presence of the dreaded mite. So far no insecticide has any effect on it, and the only means of checking it appears to be that of picking off the infested buds. The spread of the enemy is doubtless caused by planting from infested stocks, and Kentish growers are already getting particular about this. Too much attention cannot be paid to the checking and eradication of the bud mite, which without doubt threatens the future of Black Currant culture as an industry in the county of Kent.

White Currants are not a market crop correctly speaking. A few are grown in some districts chiefly for sale as dessert, but the output is nothing compared to that of the Red Currants, which are now ripe and picking is in full swing. Prices are not high owing to the heavy crops. Red Currants, which are by no means so profitable as Black, are usually grown in company with Gooseberries, and form a succession to the latter in picking. The bushes last about as long as those of Gooseberries, and as soon as they show signs of decay they are grubbed up, and after the ground has been treated to a change of crop, fruit is again planted. Red Currants generally are remarkable in size and colour this season, and the only thing that growers complain of is the price. Generally growers are also raisers, and in most plantations there is a small nursery filled with young stuff to take the place of worn-out bushes as they are done away with.

Most of the fruit goes to the London markets, except that which is sold direct to the jam factors. Much has been said and written about the institution of jam factories in fruit-producing districts, so that the preserve can be made on the spot and railway and other expenses thereby dispensed with. Owing to some reason or other, however, the venture does not appear to have been attended with much success, as I know of several such factories that are given up, and the fruit from all round goes away to the jam-makers in London and elsewhere.

Growers have found out that the best way to produce heavy crops of Red Currants is to prune the bushes closely; therefore all side shoots are spurred in during the early spring and the centre of the bushes kept open to admit sunlight and air. After pruning, the bushes present a skeleton appearance, with only a few bare branches showing. Soon, however, they assume a mantle of green, and the once bare stems are wreathed with large bunches of luscious fruit. Lime is dusted on the bushes in the winter to destroy Moss growths and prevent birds from stealing the buds, and when the soil is forked over between the bushes and manure worked in, all is ready for the next season's crop. In different districts the varieties are known by local names, but among the recognised standard sorts, Red Dutch and Raby Castle are largely cultivated. Red Currants are usually grown between standard and half-standard trees in mixed plantations, and though growers generally manage to sell at paying prices, the demand is not so good as that for Black Currants.

Threading your way through the narrow, winding Kentish lanes which intersect fruit

plantations and Hop gardens for miles, one has sufficient evidence of the importance of the Currant industry to the working population.

G. H. H.

FLOWER GARDEN.

VIOLETS IN THE SOUTH OF FRANCE.

The Violet is in flower during the entire winter—that is, from October to March—on the Mediterranean coast from Ollioules, Toulon and Hyères to Nice-la-Belle and beyond right on to Italian soil. Hyères, with its vast gardens watered abundantly by streams fed by its ancient canals or by hundreds of elevators called *norices*, by which water is lifted in enormous quantities to the surface of the soil, is of all places on the Mediterranean coast the greatest and by far the most important producer and exporter of Violets in winter. In the winter of 1897-98 the ground occupied with Violets in Hyères alone exceeded altogether 2500 acres in extent, and this will be increased in the next winter season. The temperature during the last winter having been almost always very mild, the production of Violets never failed to be abundant. The consignments of Violets by post often filled two or three vans at the Hyères railway station. Under the influence of the warm weather prolonged late into the autumn of 1897, the Rose Safrano began to flower vigorously in October, and had no buds, or almost no buds, left after December. The flowers of the Violet profited by this winter loss of the Safrano, and their price continued to be very fairly remunerative throughout the entire season, despite the more than usual abundance of the supply. If in a climate like theirs and on soil well watered and rich by nature, the Hyères growers justly consider the culture of the Violet as one of the most remunerative and least liable to accidents, it is only right to add that, generally at least, they are men of observation, knowing how to choose the most vigorous and the most productive varieties for a particular soil, as also, by planting, manuring, and cultivation, happily combined, how to make the most out of their advantages. It must be admitted that the Hyères gardeners, who for some twenty years past have made a speciality of the winter production of Violets for export, do succeed with them.

The right sort of manure applied in September, just when by the action of the rains or of artificial watering, the growth begins to appear, is applied in abundant, but rational quantities. Rich manure excites too abundant production, imparts the very long flower-stalks, and gives to the flowers their size of petal and brilliancy of hue—three qualities which, united, double the value of the Violet. Some Hyères growers of Violets plant in breadths of two to three rows, each 5 feet if three rows, and 3 feet if planted in two rows only; but the greater number—and in our opinion this is the right plan—gives greater facility for gathering. The plants, set from 10 inches to 12 inches apart in lines, are in most cases arranged in isolated tufts, which acquire size and strength in the second and third years. The plantations are seldom preserved beyond the third year. Those of the first and second year generally give, with equal advantages of manure and attention, more and finer flowers than the old plantations, and they also begin to bloom earlier. In order to obtain a good crop in the first winter season after the planting, the

planting should commence in January and be finished by the middle of March at latest.

Careful selection of plants and seeds has produced new varieties.

VARIETIES.

Twenty years ago only two varieties were cultivated at Hyères. One was an old favourite with the gardeners at La Valette, near Toulon, and for that reason was called

LA VALETTE.—Its flowers were small, of a bright violet colour, too short in the peduncles, however, but very abundant and sweetly scented. It was, moreover, vigorous and hardy. The other was, I believe, a native of Algeria, a vigorous kind, called

WILSON, the flowers of which were larger and likewise very abundant, too pale in colour, however, but long in the flower-stalk. The varieties now-a-days preferred by the Hyères specialists have happily inherited the long flower-stalk which the Wilson possessed. After this variety came the

RUSSE, or The Czar, with flowers of equal size and a fine deep violet colour, which made it deservedly popular. After that came

LUXONNE, planted in great quantity. Its flowers, of good size and a very deep violet, are very abundant. It is still cultivated to a certain extent, though much less so than

VICTORIA, which is more vigorous, very free flowering, the blooms large and well formed, and of a brilliant violet, with very long flower-stalks. This last quality in varieties which are cultivated for exportation facilitates the handling of the flowers.

Many Hyères gardeners, by making selections of Victoria and Luxonne, have obtained some varieties well worthy of being increased. All the kinds, more or less, are to be found in the Hyères nurseries, and some have been put into commerce. Among these last I recommend the following varieties:—

ABONNEN NEVEU.—A vigorous plant, producing large flowers of a brilliant violet colour with very long stems.

GLOIRE D'HYÈRES and **PRINCESSE BEATRICE.**—The former was raised by M. Joseph Roux, of Hyères, and the second came from the nurseries of the late M. Recons, Sen., of Hyères. Both varieties are vigorous and bear freely large round flowers of a deep violet colour. Gloire d'Hyères is the variety whose flowers and leaves best resist the cold, which is sometimes very severe in winter.

PRINCESSE DE GALLES, from the late M. Recons' garden, is a vigorous plant and hardy, the flowers being abundant, of a deep violet colour, and the largest so far known among Violets.

The cultivation of Violets for winter export occupies from 1000 to 1500 women in gathering alone, not including other than the single-flowered varieties. In the Grasse region (Alpes-Maritimes) the double-flowered variety known as de Parme is cultivated for perfumery, and only in very insignificant quantities for exportation. All the Violets at Hyères are grown outdoors, the greater portion, however, under the protection of trellises made with the branches of the great white Palm of the Mediterranean shores, and placed straight or slanting. I think it would be found very remunerative to guard against sudden falls of temperature in winter by using frames for this purpose, which could be covered up at will with glass or matting slightly raised, and which could be rolled up in the morning and let down in the evening. Matting for this purpose is already much used among southern growers in the cultivation of many plants grown for their flowers

in winter, such as Mignonette, Carnations, Freesias, and many other bulbous plants. — M. NARDY, SEN., in *La Semaine Horticole*.

FLOWER GARDEN NOTES.

STOCKS.—In connection with the recent remarks on the large percentage of single Stocks it is worth noting that different forms vary considerably in this matter in different seasons. August-sown East Lothians, for instance, were last year nearly half single, but this year the proportion of double to single forms is quite five to one, whilst, on the other hand, the branching white variety known as Princess Alice, always grown largely for cutting, and that, as a rule, comes very true, is throwing this year a large percentage of single flowers. Stocks may be safely put down as one of the few plants that do fairly well on dry, poor borders, that is if healthy, sturdy seedlings with plenty of roots are put out. East Lothians may be sown at any time during the present month either in boxes or in a cold frame, and as judiciously mixed they make charming summer beds, it is just as well to sow in separate colours.

PINKS.—These old-fashioned flowers have been very fine this year, and the latest are still (July 26) in full bloom with occasional buds pushing up. Ernest Ladhams is my latest, and it holds out well until plenty of Carnations are in. It has been inclined to burst this year rather earlier than usual, but the flowers are exceptionally fine. Propagation of any of the choicer kinds of Pinks it is found desirable to increase may be carried out as soon as convenient. Insert the pipings firmly in rather light, sandy soil, keep fairly moist and shade from hot sun until root-action commences.

CARNATIONS.—Mention above of the tendency to split on the part of Ernest Ladhams Pink reminds me that it may not be out of place to note the names of Carnations in flower that have shown no tendency in that direction, the sorts named having all come safely through last winter on a north-west border without any protection. Up to the time of writing the non-splitters are Mrs. Eric Hambro', white, a lovely flower; Miss Audrey Campbell, yellow; Carolus Duran and Sigurd, respectively buff and apricot; Countess of Paris and Lady Nina Balfour, bluish; Hayes' Scarlet and Uriah Pike, crimson. If the materials are to hand, soil for layering can be mixed as soon as the plants show signs of going out of flower, and leaf soil and spent Mushroom manure, the latter thoroughly broken to pieces, with a good dash of sand, will be found a suitable compost. The addition of the manure is especially useful in dry seasons, because if it once gets a good soaking the moisture is well retained.

SWEET PEAS.—Aphis proved an early and persistent enemy this year to the Sweet Peas, and on the open border it was difficult to keep it under. Fortunately, my large batch was sown in close proximity to a water tap, and by screwing on a bit of hose and giving heavy washings on successive nights the enemy was checked and the plants went away well, a tendency to knock them out from between the sticks with the force of the water being obviated by running two or three lines of string on either side the rows. The length and stoutness of flower-stem in the newer varieties are in their way as great improvements as the advance in variety of colour, size of individual flowers and the increase in numbers, all characteristics combined enhancing their value from a cut-flower standpoint; indeed, by the aid of annuals alone, with plenty of Gypsophila, one can furnish at this season a really beautiful display, among the best, in addition to the Sweet Peas, being the deep blue Cornflower, white and yellow Sultan, Coreopsis coronata, Linum grandiflorum and Salpiglossis. A mass of a dark-flowered form of the latter is just coming out in association with a dwarf white Antirrhinum, and the effect is very pleasing. Calendulas Orange King and Sulphur Crown are just beginning to show at their

best. I mention them because in a season like the present they are valuable on light, rather poor soils. If beds devoted to them are mulched at planting time and attention is given to the prompt removal of decaying flowers they will last in bloom a long time. Another poor border plant somewhat similar in shade, but of dwarfer habit, is Gazania splendens. The mention of annuals reminds me to note the result of careful observation made this year as to the relative merits of transplanted stuff and that remaining where sown. They were sown the last week in March in a cold frame in rows 9 inches apart; the plants were at first carefully thinned to 3 inches, and as required for beds in the flower garden every second and third plant were removed, leaving those in the seed-bed 9 inches apart each way. The transplanting was carefully performed, with the result that the plants shifted came into flower, as a rule, earlier than those that remained; the latter are a trifle the larger, but there is not much difference. The retention of a certain number in the seed-bed is advisable, as plenty of cuttings can be obtained here without despoiling the flower beds.

SEEDLING PERENNIALS.—The work of pricking out seedlings of hardy perennials was finished early in the week, and the dull showery time that has followed has been just the weather for them; a good soaking of the seed-boxes and also overnight of as much ground as was likely to be filled the following day prevented flagging, and they will come away quickly. They will be shaded with tiffany for a time if we get a succession of sunny days. If there is a chance of slugs being in the soil it will be advisable to look round at night, especially in the case of Delphiniums, Aquilegias or anything to which the enemy is especially partial. If a little cocoa-fibre is at hand, this may be worked in between the rows and about the plants. I was rather late in sowing the Polyanthus, leaving it in order to be able to put in some of this year's seed. This was secured and came up very quickly, so I am not far behind. These seedlings want lifting carefully to preserve the roots intact, and if a cool border can be found for pricking off, so much the better.

Claremont.

E. BURRELL.

Sweet Sultans.—These are most valuable flowers for cutting, especially during hot, dry seasons. They are becoming very popular with market growers of cut flowers, for, having long foot-stalks, they can be tied in bunches, and keep well in water even in the hottest weather. White, yellow, and purple are the three distinct colours. Probably the white and yellow find the greatest number of admirers, for white flowers are always in request, and yellow, especially a bright golden yellow, is very much in evidence for indoor decoration. I find that they succeed best if sown where they are to flower, for they do not transplant so well as many plants. If sown thinly in drills and thinned out to about 6 inches apart, they make splendid plants and continue to flower from July until October. Where they are grown solely for cutting it is advisable to go over the beds nearly every day and cut all fully expanded blooms. The white and purple varieties are the tallest, but the yellow makes up in quantity of flower for height of foliage. They are very effective mixed border plants, where they look best, if sown in good large clumps of distinct colours, as the foliage is of a light pleasing shade of green and decidedly ornamental. The average height of the white and purple varieties is 3 feet, and of the yellow variety 2 feet.—J. G., Gosport.

Gentiana verna.—I notice Mr. Wolley-Dod's interesting notes on this beautiful plant. I have tried it over and over again, but cannot succeed. There is one point about it which your able contributor does not notice, and that is its love for a calcareous soil. I am told in the Dolomite region it is found in abundance on the limestone formation, but not on the granite. It is abundant in the west of Ireland, and in the county of Clare I

am told it grows from a few feet above the sea-level up to 1000 feet. On that coast, too, there are always an abundance of moisture and very little frost and snow. People speak of its being covered on the Alps with its warm mantle of snow during the winter, but there is nothing of that kind in the localities which I have mentioned, and it adapts itself to these very varying circumstances. Why is it then that we cannot succeed better with it? There is also something evidently very capricious about *Gentiana acaulis* (*Gentianella*). I know, for instance, two gardens in which it flourishes abundantly. In one it occupies the edge of the border directly facing the sun and in a light ordinary garden soil. I know of another where it has been used for a number of years to form the edging of flower beds instead of Box; the edging is about a foot wide, and even when not in flower its compact and pleasing foliage makes a pretty object, and in the blooming season it is covered with a profusion of flowers. The soil in this garden is a stiff loam and the garden itself somewhat damp; in fact, no two gardens could be more opposite in their character than these, and yet it succeeds well in both, while in others it is almost impossible to get it to do well. In my own small garden I have no difficulty with it, and find it advisable to separate the clumps every two or three years.—H. H. D.

NOTES ON HARDY FLOWERS.

Showy blue flowers.—There is a want of these for the period from, say, the Crocus season and the Campanula season. What I mean by showy blue flowers is something in the way, say, of *Gentianella* or the blue *Aubrietias*, as against *Vincas*, which, though free flowering, do not show up owing to the flowers nestling in the foliage. I may mention as reliable, *Violas* in variety, *Phyteumas*, *Polemoniums*, *Veronica prostrata*, *V. incana*, *Eryngium Oliverianum*, *Gentianella*, *Linums*, *Lithospermum prostratum*, *L. purpureo-cœruleum*, *Lupinus*, *Orobis vernus*, *Omphalodes verna*, *Achillea Napellus*, *Hepaticas*, *Anemone apennina*, *A. blanda*, *Camassias*, *Aubrietias*, the earlier *Larkspurs*, &c. These and similar things of easy culture may be used in duplicate according to the periods or according to weakness of numbers or variety, and in all cases where blue is intended to show out strongly, masses should be the rule.

Hippeastrum brachyandrum.—The flowers of this are striking, not so much for their size as for their colour and form. It is, however, the interest one must feel in a bulbous plant of this order when one is told that it will stand out-of-door culture in this country with but the slightest protection in the way of a few leaves, and no doubt such plants as will do in the open safely are better for being there as compared with pot culture, however well done, to say nothing of the intermittent attention bestowed on pot plants. At Reading, I hear this beautiful *Amaryllid* stands out; the flowers of sheeny silvery-purple with black-purple base outside, 3 inches to 4 inches long.

Campanula Raineri.—This is a truly grand sight just now. Surely in view of the identity of this plant being so much discussed not long ago, it cannot now, as it used to be, be needful to add that the true *Raineri* is meant, though I see still that the name "false *Raineri*" is sometimes used by way of compromise. As a flower it is bright and refined beyond description. The plant is small in all its parts excepting the flowers, and these can scarcely be covered by a two-shilling piece. Perhaps something has favoured it this season, for though I have grown it many years I never saw it so fine before either in pots or on stonework.

Heuchera sanguinea grandiflora.—"Flower-spikes 3 feet high and thicker than an ordinary penholder; flowers large, velvety and crimson-scarlet." Such are the words I scribbled as I stood over the specimen plant in the grounds of Mr. T. Walton Merrill, whose residence is a long

way up the northern slope of the valley of Airedale near its convergence with Wharfedale, and not far from the highest ground or moorland in the vicinity. I mention these conditions because I feel sure the thinner and purer air has something to do with the manner in which many choice hardy flowers grow with my friend. This plant was fully exposed to sunshine, and besides was growing on a rocky bank quite 4 feet above the ordinary surface. The stems were so strong as to need no supports. We have often seen questions asked as to what should be done to make the *Heuchera sanguinea* flower better. I have come to the conclusion that it is better for deep planting, and given that it does not matter whether it is exposed or slightly shaded. The rootstocks, which are half stem-like and half rhizomatose, are, I believe, more properly in place when under the surface. Of course I do not say if these are above the surface that the plants will not flower, because I know better. Still, I think if in the same garden the rootstocks were kept well down the results would be better. I am speaking as a general rule, and, given annual or biennial replanting, by setting the roots well down, a more free-flowering habit will be developed.

Woodville, Kirkstall.

J. Wood.

BORDER CARNATIONS AT CHELSEA.

IN Messrs. James Veitch and Sons' nursery (Ltd.), King's Road, Chelsea, there is a fine collection, embracing the best of both new and old kinds. The plants are arranged in long, narrow beds on either side of the main walk between King's Road and Brompton Road, and despite the many drawbacks of the situation—for Chelsea is by no means an ideal spot wherein to grow many flowers—the plants and, indeed, the blooms are as a whole excellent. It is in truth the border Carnation grown entirely without protection, and may be taken as an instance of its general worth and utility as a town plant. We may see here what skill may and, indeed, can accomplish with good soil, and, what is also of equal importance, good and hardily grown plants. Any, in short, that are the reverse soon go to the wall amid surroundings such as here obtain. One thing, therefore, may be taken for granted, and it is this, that the Carnation may be grown to well-nigh perfection even in a town garden, and that is sufficient variety to satisfy all lovers of the flower. Selfs of all shades, fancies, and yellow grounds are in considerable numbers and variety, while the *Picotée* is also grown, but in smaller proportion. In the open this season thrives have been a plague in many districts, yet here the flowers bore no traces of having suffered from this cause. Frequent syringing and ample watering with a light mulch on the beds of cocoa-nut fibre or the like assist in great measure to keep such things in check. No disbudding takes place; this is why the bottom laterals are teeming with buds of excellent size, that will give flowers in plenty when the main crop is past. It is, in short, the way the Carnation should be grown for the garden, and seen in this way is as instructive as it is pleasing.

VARIETIES.

The two first beds are occupied by well-known old kinds, still valuable and worth growing. These are Mrs. Frank Watts, pure white, and Joe Willet, scarlet, both very dwarf and free, of about equal height, and flowering together, are suited for association one with the other in any bedding arrangement. To another well-known kind, Alice Ayres, may almost be accorded the honour of providing the greatest mass of flowers of any kind, the blossoms appearing literally by hundreds on the bed devoted to it. In point of size, however, these have to give place to more recent sorts, such as George Macquay, the finest white we have seen. Not only is this fine kind possessed of size, but the form is excellent and the flowers full, while it figures among the freest bloomers and produces its flowers on stiff erect stems, material for layering also being abundant. It is a most

conspicuous kind in this collection. Another large white is Edith Leadenham, also a new kind. This lacks some of the fine form and finish of the previous kind, and is rather too full of petals towards the centre. It is such whites as these that place such a poor kind as Mrs. Eric Hambro' entirely in the shade, an opinion expressed with a full knowledge and appreciation of the exquisite whiteness of Mrs. Eric Hambro', which probably renders it unique. In the garden, however, and, indeed, in decoration also for that matter, we want Carnations that can hold the flowers up. Mrs. Eric Hambro' cannot do this; the stalk is so weak that every flower droops, and its effect, therefore, in the garden would be *nil*. Another very fine white is Princess Charles of Denmark, which is in every way excellent. Of scarlets there are also some good flowers, Mrs. MacRae, an improved Hayes' Scarlet, being very noticeable among them; Sweet Brier, Edward Marshall, Jim Smythe, King Arthur and Miss R. C. Barclay, light rose-scarlet, being among the best of this shade. In form, colour and petal Lady Hindlip is worthy of mention, but is not full enough compared with other good sorts. Of the crimson or light crimson shades Sir John Falstaff is among the latter and one of the largest ever raised, while Sir George Faudell Phillips as a rich deep crimson will take some beating, the flowers being not only large, but very full, strongly scented and standing the weather well. Mephisto, a smaller flower, is perfection from a garden point of view, being wonderfully free and abundant in its flowering and slightly later than others of its shade. Another shade of colour, the blush kinds, is represented by some excellent things, Her Grace, Seagull and Waterwitch being all good. For the self yellow class, always a favourite set, such kinds as Pandelli Ralli, Miss Audrey Campbell, and Hon. Harry Escombe will ever satisfy the taste in this direction, the last-named being a glorified Germania. Of apricot or allied shades the best are Mrs. Colby Sharpin, Winifred and Cinnamon, while Miss Maud Sullivan, Exile, Rose Celestial are among the best in the rose or rose-scarlet class. Bendigo is quite unique and a remarkable shade, which is very striking in a mass.

These are but a few of the best selfs in their respective colours, while the yellow grounds are as yet not touched. To-day, however, these not only form a most beautiful and useful class, but they are possessed of splendid vigorous constitutions, such as could not be found in the old time flowers of this section. This to the grower is of course a great gain, and in securing this in the present day forms of the flower, the flower itself has in no wise been neglected, but the habit and general vigour have been greatly improved. So much so is this the case, that many of the largest flowers are possessed of strong constitutions quite as vigorous as many selfs. This is most gratifying all round. Some of the gems of this set are Stanley Wrightson, Wanderer, Miss Alice Mills, Eldorado, a magnificent flower; Golden Eagle, Voltaire, very fine; Xerxes, May Queen, and Mr. Nigel, every one of which has obtained a certificate of merit by reason of their excellence; the last named, Mr. Nigel, is a remarkable flower with a very heavy crimson edge. Enough has now been said to give some idea of the general worth and value of these beautiful flowers as seen in a London nursery garden. Nor is it merely a bed or two, but several dozen beds, the size of which may be gathered from the fact that it is expected to take up something like a thousand layers from each; layers, too, if we may anticipate the balls of roots at potting time, will be of the finest possible description. Close by is a large house devoted to the pot culture of the same things, and this a veritable blaze of colour and variety from which whole sheaves of blossom could be taken if required. E. J.

Lilium chalcedonicum.—In any selection of good garden Lilies this species must be included, for it succeeds better in the open border than

many other kinds; indeed, fine established masses may be occasionally met with in old-fashioned cottage gardens. It also possesses many distinctive features, for the clear unspotted red of the flower is totally unlike that of any other Lily, while the petals are of a thick wax-like nature, and in this respect second only to the Japanese *Lilium Hansoni*. About the end of July is usually the flowering season of *L. chalcedonicum*, whose blossoms are less heavily scented than those of some others of the Martagon group to which it belongs, but even this is too pronounced for a confined place. Though *L. chalcedonicum* does not flower till a great many Lilies are over, it is one of the earliest to appear above ground in the spring. The first after *L. candidum* is *L. testaceum*, with the Japanese *L. Hansoni*, *L. chalcedonicum* following closely on its heels. The scarlet Martagon, which is the popular name of *L. chalcedonicum*, does not produce many roots, but they are all stout and of a deep descending nature. The flowers of *L. chalcedonicum* are not all of equal brilliancy, some individuals being more richly coloured than others.—H. P.

Carnation Marguerite.—I usually grow a good number of this useful and beautiful free-flowering Carnation both for lifting and potting up in the autumn for greenhouse decoration and for cutting. They always do well, last year being no exception to the rule. In a general way I have had the plants pulled up and thrown away after they have done flowering—that is, those left in the borders outdoors—but last season they looked so strong and healthy that I resolved to allow them to remain to see whether they would give a second crop of bloom. This, I am pleased to say, they are now doing, and the yield is far beyond that furnished by the plants last autumn, while in size and brilliancy of colour the flowers are equal. The plants will literally be one mass of bloom in a few days, and although the old Clove and other border Carnations are now coming into flower, the sweetly perfumed blooms of the Marguerite Carnations will be most welcome for cutting. There may be nothing new or novel in the experiment, but it is one I have never tried before. Now that it has been found to answer so well, the plants of this Carnation will in future be allowed to remain in the borders the second year instead of being consigned to the rubbish heap, as has been done heretofore. By allowing the plants to remain to flower the second time, and by sowing seed at the beginning of the year in addition to the usual time of sowing, viz., March and April, there would be no difficulty in having Marguerite Carnations in bloom outdoors from June until very late in the autumn.—A. W.

Erigeron mucronatus.—Referring to the note of "F. W. B." on page 92 of THE GARDEN, I should say that *Erigeron mucronatus* (De C.), the Mexican Daisy, a dwarf sub-shrubby hardy perennial, with pink and white flowers, like those of a lawn Daisy, is a far commoner plant in English gardens than *Vittadenia triloba* (De C.), an Australian plant, now considered identical with *V. australis* (Richard), a New Zealand plant. The three will be found described accurately in De Candolle's "Prodiomus," vol. v., pp. 280, 281 and 285. The character which gives its specific name to the *Erigeron*—a sharp callous brown spike at the tip of each leaf—is more obvious when a lens is used than it is to the naked eye. The name-giving specific character of the *Vittadenia* is the splitting of the end of each leaf into three lobes, a character absent from the *Erigeron*. I may add that *E. mucronatus* was for twenty years at least after its introduction as a garden plant known in the trade as *Vittadenia triloba*—a plant which is tender in Edge Gardens, although hardy at Warley, in Essex. The Mexican Daisy, however, is so hardy as to survive hard winters and to become a troublesome weed on the rockeries here.—C. WOLLEY-DOD, *Edge Hall, Malpas*.

P.S.—De Candolle wrongly makes *Erigeron* of the neuter gender, but it is a good classical Greek word, and is certainly masculine.

THE WATER LILIES OF EGYPT.

WITH the kind permission of Mr. C. Schoeller, of Alexandria, I send you, for THE GARDEN, a photograph, taken by himself, of the blue star Water Lily (*Nymphaea cerulea* of Savigny and *N. stellata* of Willdenow), gathered a few weeks ago in one of its native haunts, the village of Kafr-Dawar, about eighteen miles from Alexandria on the main line of railway to Cairo. I only wish this excellent photograph could convey to you the exquisite shades of blue and green in the petals, stalks, and veined sepals of the beautiful "brides of the Nile" ("arays en Nil"), as the Arabs call the flowers of these famous Lilies. They are very fragrant in the open air, but in a closed room, or held too close to the face, are apt to remind one of that pest of our childhood—medicinal rhubarb. The leaves, which unfortunately are not represented in the photo, are large and heart-shaped, and, as a rule, have distant teeth on their edges, though sometimes they

undoubtedly first place as regards ritual importance. Entire blossoms of this species were found by Professor Schweinfurth in 1881 with their long stalks uninjured among the outer bandages of the mummy of Rameses II., now in the Gizeh Museum, and they played a prominent part among the plant remains found in 1881 among the great tomb discoveries at Dôirel Bâhâri. The paintings of the blue Lotus on the temple walls of the foregoing dynasties are endless. The petals of the white Lotus were also found in the flower-wreaths with which the breast of the mummy of Rameses II. was adorned, but Dr. Schweinfurth is of opinion that it played a much less important part than the blue Lotus in the decoration of the dead, even down to Ptolemaic times. As the flowers of the *Nelumbium speciosum* (L.) (or Sacred Bean of India, China, and Japan) have never been found in pre-Ptolemaic tombs or coffins, and are not depicted on them, whilst Herodotus is the first who men-

species planted some couple of years ago. From seed saved last autumn the plants are about 9 inches high, but will not flower this year.

Coreopsis Golden Sunset.—Under this name I have noted a finely coloured, large form of the useful *Coreopsis grandiflora*, one of the very best of plants for keeping up a bright display over a long season, especially in hot, dry summers. The form in question has larger flowers than the type, the colour a beautiful golden yellow. No gardener should be without this fine old plant, which is easily raised from seed; indeed, self sown plants come up by the thousand even in a heavy, cold soil. If not strictly perennial, it lasts for several years, when the old plants should be destroyed and young seedlings substituted. — H.

TRIAL OF TUFTED PANSIES AT CHISWICK.

THE trial of Tufted Pansies in the gardens of the Royal Horticultural Society at Chiswick shows a marked advance over that of last year. Borders with a northern and an eastern aspect were selected for the purpose, and here the plants seem to have made considerable progress, many of them having attained large proportions and flowering freely. There were indications here and there of

failure with different sorts, and this doubtless pointed to the weak constitution of such varieties.

From various raisers and trade specialists some 203 varieties were sent for trial, and six plants of each were planted out in the borders during the last week of March. From a carefully compiled record it was ascertained that certain varieties commenced to blossom about May 9, and these were succeeded by others in the course of the next week to ten days. There had been a continuous display ever since. The borders had been liberally manured and in the early summer mulched with cocoa-nut fibre refuse. The plants had also been relieved of spent blossoms, this assisting very materially to keep them in a healthy condition. On the occasion of the first visit of the floral committee fifteen varieties were credited with three crosses, this being equivalent to highly commended, and it will be interesting to note the names and descriptions of these. They are as follows:—

WRAGMENT.—A miniature flower, rather larger than the recognised size, with neat upper petals, faintly flushed with blue, lower petals white. It is a dwarf, compact variety.

DIANA.—A free-flowering and compact variety, upper petals lavender-blue, lower petals white.

JACKANAPES.—In this the upper petals are brownish-crimson, lower petals rich yellow. The only thing that can be said in its favour is that it is free-flowering and very distinct from anything else.

J. B. RIDING.—This is the well-known deep mauve sport from William Niel, and valued because of its distinct yet pleasing colour in the flower garden. The habit is very good.

SIR ROBERT FULLER.—A large pale mauve-blue flower with distinct rays and yellow eye, very much resembling a variety known as Magnificent, and possibly synonymous with that sort. The habit is tufted and compact, and the plant is also free-flowering.

COUNTESS OF HOPETOUN.—Although this variety has been introduced some years now it is still valuable. The flowers are large, rayless, and cream-white in colour. It is a free-flowering sort, though the blossoms lack the substance of those of some of the newer introductions.

MRS. H. BELLAMY.—This is one of the prettiest of the fancy type of flower. The upper petals are pale lavender, under petals rich purple with a velvety surface. Of the type it is one of the most reliable, but more compact and tufted habit of growth is desirable.

BULLION.—The merits of this old sort were recognised probably because of its consistency. This is one of the earliest to flower, and is also seen in fine



The Blue Star Water Lily (*Nymphaea stellata*). From a photograph sent by Admiral Blomfield, Alexandria.

are quite entire. The whole plant is called by the Arabs "bishnin," and the tuberous roots, which are eaten like potatoes, "biyarû." There are varieties of this plant in India with white, rose-coloured, or purple flowers, but in Egypt they are always blue. The only other wild Water Lily in Egypt is *Nymphaea Lotus*, L. (the Nuphar of the Arabs), which here has always white flowers, though in India there are coloured varieties, as with the *N. stellata*. The flowers of the *N. Lotus* are also called "arays en Nil" sometimes by the Arabs, and are equally common with the blue ones in wet ditches in the delta in the summer; the leaves are somewhat like those of the blue Lily, but are always serrated; the petals are obtuse, and less narrow than those of the *N. stellata*. The English white and yellow Water Lilies (*Nymphaea alba*, L., and *Nuphar luteum*, L.), though frequent in Palestine, are not found in Egypt.

As regards the antiquity of the Egyptian Water Lilies, the blue one had in early days

tions this plant in Egypt, Dr. Schweinfurth considers that it must have been introduced by the Persians and brought into prominent culture during the Græco-Roman period. During the last 1200 years of Arabo-Turkish domination both the *Nelumbium* and the *Papyrus* have disappeared from general cultivation in Egypt, and are only to be found in a few gardens here and there.

I wish you were here at this season to see some of our handsome trees in flower: *Poinciana regia*, *Solanum macranthum*, *Jacaranda mimosæfolia*, *Tecoma stans*, gorgeous with scarlet, violet and white, blue, and chrome-yellow flowers, with their beautiful foliage.

R. W. BLOMFIELD.

Alexandria.

Alstroemerias.—These have been quite the finest flowers of the week (July 25), their rich and telling colours and the great freedom with which they are produced being strong points in their favour. Most of the plants are seedlings from *A. aurea*, *A. chilensis*, and a few other

condition late in the season. It is a most profuse bloomer, and its neat, compact style of growth, although somewhat slender, is a recommendation. The blossoms are of a deep golden yellow colour with dark rays running from the centre.

MARCHIONESS.—In this variety we have one of the very best. The plants are literally covered with pure white blossoms of the most chaste description, and as there was some mistake when this variety was first put into commerce, it is just possible some growers may have it under the name of *Niphetos*. The habit is very compact, though less tufted than some others.

MRS. C. F. GORDON.—A large handsome flower very much resembling the old Countess of Kintore, but better than that variety, especially in its habit, which is rather dwarf. This sort should supersede the last-mentioned variety if a plant less straggling in its growth is desired. Colour dark purple centre, shading to pale lavender at outer edges.

IONA.—Another of the fancy type of flower. Colour blue-black with a white blotch at the edge of each petal, upper petals lavender. It is very liable to sport. The habit, too, leaves much to be desired.

DUCHESS OF FIFE.—Quite a distinct type of plant and flower. The habit is very tufted, and plants soon attain a large size. The blossoms, which are developed on long, stout foot-stalks, are of a light primrose, distinctly edged with blue. This is a free-flowering sort.

HAMISH.—This is a bright purple-rose flower, and a very useful colour in the border. The growth is rather strong.

PRINCESS LOUISE bears freely charming rayless canary-yellow blossoms on somewhat short flower-stalks. The habit is very dwarf and compact. The constitution, too, is excellent.

BLUE GOWN.—This, like the last-mentioned, is typical of what a Tufted Pansy should be. It is one of the most profuse bloomers, and the habit is wonderfully dwarf and compact, the constitution, too, being all that one could wish for. The colour may be described as pale mauve-blue, and the blossoms are rayless with a yellow eye.

In addition to the foregoing there were many other very fine sorts in flower, but which, perhaps, at the time of the visit of the floral committee were not at their best. Some of the most conspicuous and deserving of special mention were *White Duchess*, a beautiful white sport from *Duchess of Fife*, but with a pretty blue edging. *Goldfinch* is another member of the same family, colour yellow, edged bluish purple. *Neptune*, a fancy flower, has a rich purple centre, passing to white at the edges. *Pencaitland*, an excellent free-flowering pure white sort, has a splendid dwarf habit and with neat pencillings. *Ardwell Gem* is still one of the best, its fine sulphur-coloured blossoms very effective on the splendid dwarf style of growth. *Cordelia*, highly thought of when first introduced, with its creamy white blossoms, is still one of the best. In *Bridegroom* the flowers are of medium size, bluish-lavender in colour. The growth, too, is very dwarf. *Rosea pallida* was not so good here as is seen in most gardens, yet it was in sufficiently good form to prove its value as a pale rose bedding sort. *William Niel* was represented by free-flowering plants of a pretty shade of pale rose. *Mary Gilbert*, a first-rate golden yellow rayed flower, has a nice spreading habit of growth. *William Haig*, with its brilliant indigo-blue flowers, is superior to *Archie Grant* in point of colour. *Nellie* is one of the finest mauve-white sorts, having large rayless flowers on stout foot-stalks of good length and possesses a fine habit. *Unique* is a beautiful rich rayless yellow, a seedling from A. J. Rowberry. *Trent Park Yellow* is another pretty yellow rayless sort, with an orange blotch in the centre; it is also free flowering and of compact habit. There were a few good miniature sorts, including the original of the type, *Violetta*, with its fragrant flowers of pure white, flushed yellow on the lower petals and possessing a perfect habit; *Bridal Wreath*, a pure white self; *Gnome*, cream, flushed golden yellow, very dwarf; *Marginata*, white, with the faintest blue border; *Ophir*, neat, small yellow flowers, neatly edged white; *Gold Crest*, rich golden yellow, very pretty and distinct; *Lyric*, a pale bluish-lilac,

tinted lavender, very pleasing and profuse, and *Mrs. George Finlay*, cream-white, shading to yellow and very sweet scented.

D. B. CRANE.

SWEET PEA TRIALS AT READING.

QUITE recently we had an opportunity of inspecting the trials of Sweet Peas in the seed grounds of Messrs. Sutton and Sons, Reading. To render all such trials not only comparative, but very thorough and complete, every conceivable care is taken, even in the minutest details that in all probability would escape notice in those instances where there is an undoubted lack of system and thoroughness. The fullest records of all these trials are carefully preserved, so that in years to come it may be as easy as it is to-day to answer any question as to the origin of any variety, or any special or particular strain of this or that flower. So what we found to be the case among the Sweet Peas is merely part of the every-day perfect routine that here prevails with some crop or other, and with special experience to govern and assist in each and every case, the information vouchsafed is a result of the most reliable character. With the extensive trials of the Peas in question, the whole subject becomes something more than a trial; it is, indeed, a very severe test, from which only those kinds bearing promise of the highest ideals emerge with anything approaching a full measure of good points. As with many another group of florists' flowers, the highest standard of excellence of to-day will undoubtedly be surpassed a decade hence, just as those of to-day have so completely eclipsed those of a past decade. The incessant onward march of progress in these flowers is, perhaps, the most interesting phase of the subject, especially when, as here, the old and the new—the former frequently dating many years back—are arranged side by side in their respective shades of colour, that their merits or otherwise are determinable at a glance. That this is possible may be gathered, perhaps, from one solitary, though important item. Not only is planting, preparing the soil, and such things carried out in the most uniform way possible, but each row throughout contained at the moment of planting precisely the same number of seeds. Therefore it is possible to decide at a glance when superior or more vigorous haulm, a denser growth and more abundant flowering appear. Many may think, perhaps, that the Messrs. Sutton have an ideal spot for growing these Peas; whereas, indeed, it is just the opposite, the soil being light, very stony, and shallow—the very soil for devouring manure wholesale. Yet in such a soil everything is still comparative so far as seed trials go. No one need fear the result if but a very ordinary soil exists wherein to grow these popular, fragrant and pretty flowers. In such a soil as that just mentioned these Sweet Peas in a season like the present are not long-lived, and particularly in a test case like that now being conducted at Reading. Where the whole crop of flowers, pods and all, remain upon the plants, early distress is more likely to ensue than is the case where the flowers are gathered as soon as opened.

The whole of this extensive trial, comprising something like 185 varieties, occupies 231 rows, each about 35 feet in length and at about 3½ feet apart, covers a very considerable area, and embraces one of the most complete assortments ever brought together.

The dwarf bedding *Cupid* is, of course, here in its several shades of pure white, bluish, and pink, which is the order of arranging the whole of the kinds here. That is to say, whites of all kinds and from all sources constitute so many rows, culminating in the giant whites. The whites are followed by the blushes of all sorts, and terminate also with the giant strain of this colour. Then follow the pink, red, and other shades in precisely the same order, and so on throughout the whole of the trial. The fairness and completeness of the trial are here again exemplified, the whole of the trials being planted under number only,

arranged at headquarters and sent to the grounds for planting, this being begun and ended in a few hours. It is in this way, indeed, that the trials of these things, albeit an expensive item in itself, is rendered so thoroughly reliable. While many of the trials are undoubtedly severe, as well as singularly trustworthy in the smallest details, no attempt is made by extraordinary methods of culture to render the cultural side of the question impossible of improvement. The variety *Cupid* has already been noted, though perhaps it may be of interest to note the reason of its dwarfness, or at least one reason. This dwarfness is due partly to the loss of or blindness, perhaps, of the leading point, combined with the prompt production of lateral growth, and therefore flower at only a few inches high. The dwarfness and the abundant flowering of the plant have their uses, though these are practically restricted to pot culture and to bedding. Of the rest we can only say what is here amply demonstrated in the most convincing manner, that the strains of these Sweet Peas in their varying shades, to which the Messrs. Sutton have given the name of "giant," are giants pure and simple. Not so much in excess of vigour over the older sorts as in the size and the number of blossoms to each spray, four flowers, even in this exceedingly dry and trying season, being quite common, while in older types, such as the well-known *Invincible* for instance, only two occur. The difference was so marked, so unmistakable, at certain intervals, that it provoked the natural inquiry as to whether each row contained the same amount of seed, with the above stated result. And not only in size do these "giants" excel, but also in form, the standard in the best forms partaking somewhat of the obovate outline. As to form alone combined with substance of petal, great attention is paid by a very enthusiastic and trusted employé. The well-known white *Emily Henderson* that created something of a furore but a year or two since is now completely eclipsed by *Sutton's Giant White*, which is not only purer in every way and much larger, but devoid of the great central incurving notch at the highest point of the standard, a very great defect when seen in company with the *Giant White*, whose rounded standard is so permanently erect. This item alone has a marked effect when viewing the whole row of each kind, and in the giant strain all that is possible to be seen of the colour is seen and to advantage, a fact equally as important in decoration as in the garden. Another instance may be cited in the pink shades, viz., *Lady Penzance*, a very beautiful kind indeed, but superseded by *Giant Pink*, which is a most decided advance in the same way of colour. And what is true of the white and pink just named is equally true of almost every other hue, whether it be salmon or scarlet, cardinal or crimson, mauve or blue, and so forth, due in a very large degree to the constant watchfulness and selection that are daily going on while these things are in their prime. Of the giant race alone there would appear enough and to spare, seeing that some dozen very distinct shades exist, quite apart from intermediate shades. Of course there is a large general collection of named kinds to be seen also, and these alone are well-nigh bewildering in their apparently endless numbers; whereas the giant forms carry descriptive colour names at once simple and helpful at a glance. A few of the most striking of named kinds are *Cottage Maid*, pink standards and blush wings; *Catherine Tracey*, most delicate pink; *Venus*, salmony buff, very charming; *Grey Friar*, dusky purple-blue and white, distinct; *Emily Eckford*, deep mauve-blue, extra; *Orange Prince*, very striking shade; *Sutton's Butterfly*, pure white, with a *Picotee* edge of lavender-blue; *Princess of Wales*, white and blue; *Her Majesty*, rose and pale rose, one of the largest of all. Of this last there is a selection possessing identical vigour with great freedom of flowering, and having glowing rose-scarlet blooms. One very striking item in the more brilliant shades is the manner the varying shades appear on the flowers, which are as though washed on in

miniature waves, thus giving a very distinct appearance.

The above of course are but a few of the two hundred kinds grown, a large number of which are carefully preserved for test purposes. Finally, as showing the prevailing enthusiasm, we may mention that cross-fertilising is carried out on quite a large scale, which accounts for the many charming things that may be seen, but as yet not obtainable owing to stock being insufficient for the large demand. In this way numbers of beautiful things surpassing most of the named commercial kinds are utilised as pollen parents or seed bearers with the hope of still further improving an already delightful race of garden favourites. No haphazard work is countenanced and all crosses are carefully recorded.

E. J.

Nemesia strumosa.—This is remarkable for the apparently never-ending variety of colours, some of which are quite novel and very beautiful. Indeed, so great is the colour variety of this race, that beds or groups of one shade may easily be arranged in the garden and form a considerable attraction. At a glance we noted the purest white, together with lemon-sulphur, rich yellow, deep orange, rose and carmine, blue, violet, &c., sufficient indeed to satisfy all needs.

Carnation Sundridge.—This is the name given to a fine scarlet self which at a recent meeting of the Royal Horticultural Society obtained an award of merit from the floral committee, which it well deserved, the colour being rich and clear and the flowers of good size, free from calyx-splitting, so common among the best Carnations. A very curious fact, however, is that in two gardening papers the variety is described as belonging both to the tree and border sections. As a grower of Carnations, I unhesitatingly favour THE GARDEN report, which describes it as a border kind, and I imagine the true tuft of grass at the base as much as the entire absence of lateral breaks on the flowering stem will favour this view.—GROWER.

Campanula fragilis.—It is a very difficult matter to dissuade some gardeners who grow this plant that it has nothing to do with *C. isophylla* alba, which not infrequently acts as a companion plant. Yet the complaint is frequent that the above will not trail with the same freedom as the white form of *C. isophylla*. In *C. fragilis* the leaves are of a leaden hue, while the growth rarely extends to more than 8 inches or 9 inches from the plant. In the blue and white forms of *C. isophylla* the trailing masses of bloom often extend to 2½ feet in length and are covered with one sheet of flowers. In this respect it is the most beautiful of the genus, the stems much less liable to suddenly snap than in the case of *C. fragilis*.

Clematises dying.—I notice in THE GARDEN of July 23 "V." asks the cause of his Clematises dying. Among Clematis growers this vexatious occurrence is known as the Clematis disease. What it is and the cause no one yet has fully determined. Numerous experts on diseases of plants have studied the question, and the only reason they can assign is general weakness caused by excessive propagation. Enormous quantities of this plant have been propagated and hybridised, and it is not at all impossible that this has produced a weakness in the stock. The suddenness with which plants are attacked is most remarkable. I have observed cases in which plants in the morning appeared as healthy and as vigorous as one could possibly wish, and the same evening the branches have withered and turned brown, stricken, as it were, with a kind of paralysis. In some instances the whole plant is affected; in others only one branch. I may here give "V." a word of comfort as to his plants. I have found that the disease does not kill the plants outright, as in the majority of cases they break up again the following spring as vigorously as ever. That plants do recover has been proved. I have lately seen a collection which was planted last year and badly

affected, and so far they have survived and are flowering freely. That excessive propagation is the probable cause seems feasible, for I have never yet seen—and I have rare opportunity of doing so among thousands of plants—this disease in such varieties as *C. Hendersoni*, *C. Flammula*, *C. montana*, *C. cerulea odorata*, and *C. paniculata*, which are propagated by layers. Some authorities have suggested as a possible remedy using the *C. Viticella* stock for grafting in preference to *C. Vitalba*, but the use of *C. Viticella* has not resulted in the slightest difference. Spraying with Bordeaux mixture has been tried on plants affected, but this seems of very little use.—E. S., *Woking*.

THE EREMURI.

THE eighteen or twenty species which the genus includes are natives of Asiatic Russia, Persia, Turkestan, with one exception, viz., the Hima-



Eremurus Elwesi. From a photograph sent by M. Micheli.

layan. Of this number about twelve have been introduced into gardens. The plants have a short rhizome, and are furnished with numerous stout and fleshy root-fibres. The rhizome ends in a terminal leaf shoot, out of which spring the leaves and the flower-stem. I have noticed in the greater number of species a natural tendency to sub-division in such a way that a plant that normally should bear a single flower-stem only would, after a few years, become quite a tuft of flower-stems. The Eremuri are robust plants, loving a well-drained, sunny

aspect. They begin to grow early in the spring, and after blooming when the leaves begin to fade a period of absolute rest is needed. In moist climates it is wise at that time to give them the shelter of a pane of glass to keep them from the rain. About October they start again into growth, the terminal leaf-shoot develops and is seen above the soil. Generally speaking they are impervious to the sharpest frosts, even of the hard winters that are customary in their native habitats. They yield an abundance of seed, which germinates freely, but the development of the young plant is slow, and it takes many years to acquire sufficient strength to flower.

The species *Eremurus* is divided naturally into two groups, differing widely in garden value. In one group the pedicels are upright after flowering, and the capsules, which often present a wrinkled surface, lie flat to the axis; the flowers are small and dull in colour. The varieties in this group are chiefly valuable for collections. Those which I have observed in flower were *E. altaicus*, *E. bucharicus*, *E. Kaufmanni*, *E. persicus*, *E. spectabilis*, and *E. turkestanicus*. The last is interesting for its flowers of deep brown—a rare thing in the plant kingdom.

The species of the second group are distinguished by their pedicels being horizontally displayed after flowering and their always smooth capsules. The following species of this group deserve a place in all gardens. I give them in their alphabetical order:—

EREMURUS BUNGEI (syn., *E. aurantiacus*) scarcely ever exceeds a height of from 4 feet to 5 feet, the leaves narrow and glaucous, the flowers a bright yellow and closely set on the stem. The species is robust, dividing spontaneously and giving after two or three years handsome tufts with numerous flower-stems. The blooming time is from mid-June to mid-July.

E. ELWESI.—This species is very large, the flower-stems often more than 10 feet high, bearing rose-coloured blooms. The leaf is large and of a handsome green, and remains so up to the time of flowering, which takes place about mid-May and lasts for three or four weeks.

E. HIMALAICUS.—This species is over 7 feet in height, bears pure white flowers and large leaves of a decided green, resembling those of the last-named species. It flowers from April.

E. OLGE is a rather more delicate plant than the preceding, but very pretty. The flower-stem is from 5 feet to 6 feet long, the leaf is narrow and greyish. The flowers are rose-coloured and not very closely set on the stem. It is the latest species to flower, the blooming not commencing until the first days of July.

E. ROBUSTUS is the oldest cultivated species. The stem reaches 10 feet in height, and bears midway and upwards rose-coloured flowers resembling those of *E. Elwesi*. The grey-coloured leaves are abundant and begin to fade at the time of flowering, which generally takes place about the middle of May.—M. MICHELI, in *Le Jardin*.

Gentians.—Apropos of Mr. Wolley-Dod's interesting note on Gentians in THE GARDEN of July 16, I should like to say that when tramping through Bosnia and Herzegovina (Illyricum) last autumn I was greatly struck by Gentiana

asclepiadea, which was growing everywhere, sometimes to the height of nearly 3 feet, but I did not notice any *G. lutea*, a plant not easily overlooked. A curious feature I noticed—I do not know if generally recognised—is that when growing in the open the leaves are practically at right angles to one another, but when growing in deep shade they lie in one plane, the whole plant curving and presenting the appearance of a Solomon's Seal. It occurred to me whether the latter form had not suggested to Pliny the description as being like an Ash leaf. I brought back seeds, but have had no luck with them, nor with the plants I bought in England, though planted in the shade in peaty soil.—H. C. BAKER, *Oaklands, Almondsbury, Bristol.*

STYLES IN THE ADORNMENT OF GARDENS.*

The adornment of gardens may generally be divided into three principal groups, each possessing a style of its own, and each group having its own limitations and its peculiar character. By the term "style" applied to the adornment of gardens we mean the general expression which results from an adornment created by us, whether it imitates the natural or inclines to the artificial, and so reveals our industry. So far as the ornamentation of gardens is concerned the classification may be into three groups or styles, thus:—

1. The picturesque.
2. The geometric, or mosaic.
3. The mixed, or floral.

1. PICTURESQUE OR LANDSCAPE GARDENING.

Picturesque or landscape gardening is the form of adornment which appears to be, and is, in fact, the most natural. The plants are not arranged upon any apparent plan; it includes, therefore, neither beds nor borders, although in these latter an informal distribution of the plants is admissible. And just as the word "effect" is applied in parks in order to describe them as wild, mountainous, pastoral, wooded, &c., the same word is used in this case to describe the grouping of the plants. Thus we say "an effect of perennial plants," "an effect of alpine plants," "an effect of aquatic plants," and so on, as the case may be. Picturesque adornment, therefore, includes effects of the landscape order inspired by the spontaneous distribution of plants in Nature. Naturally, small, irregular groups of plants made here and there on lawns, by the side of walks or around shrubberies are included in this category. It is to be observed also that the arrangement of the plants in all these cases aims rather at their natural distribution and harmony of form than contrasts of colour. The principal sub-divisions or sorts of picturesque adornment are:—

GROUPING OF ALPINE PLANTS AND ROCKS, reproducing certain beautiful aspects of mountains with the peculiar vegetation that pertains to rocks. These effects are more especially formed in the less cultivated parts of gardens where rocks are to be found, and are made after the idea of the mountain rocks or rocky slopes. But a group of alpine plants will not have this character if made on flat ground, and the finest effects from such a group are to be got from broken ground.

EFFECTS OF PERENNIAL AND OUTDOOR PLANTS, on the other hand, represent rather the vegetation of the plains. Groups of perennial, bulbous, annual, &c., plants give brilliant effects on level or sloping lawns, and by taking advantage of a gentle undulation in arranging the quantity of the various plants some charm-

ing effects may be obtained. Effects like these may be made in a certain spot on a lawn, as in a hollow or against a shrubbery. Such effects are the easiest to arrange, as the right plants are generally at hand. All outdoor plants arranged singly or in groups harmonise well together, and the effect of the whole is charming if the grouping is carried out with taste. Should there be rocks, it will be necessary to have near them plants that are usually seen near rocks.

EFFECTS OF AQUATIC AND BOG PLANTS.—As rock plants are the proper adornments of rocks and rocky places, so aquatic and bog plants are the right plants for the water, water-side, and moist spots in the garden. Effects of aquatic plants alone are full of charm, but it is a pity if the vegetation is confined to the water and has no place beyond the margins of the rivers or pools. By preparing the approaches in such a way that the water could reach them by overflow or infiltration, prosperous colonies of water and bog plants might be established, and would thrive in ground that was merely saturated, and thus form a link between the aquatic and land plants of the pleasure ground.

EFFECTS OF NATIVE PLANTS are almost solely composed of plants that grow in the country spontaneously, with the possible addition of some perennials. It is in some way a reproduction of local objects commonly met with in a walk across country. Such effects may be freely extended to grassy places, and thus represent pretty corners of meadows strewn with flowers in combinations capable of infinite variation. Such effects gain especially by being made in proximity to clumps of trees, on slopes, near drives, at the turnings of walks, and in outlying parts of parks and gardens. There is no need to open up vistas for them, and, in fact, their true charm lies in their being localised and their presence unsuspected.

EFFECTS OF PLANTS UNDER TREES.—These may be formed of native plants or outdoor plants from other countries, and, in certain cases and for the time being, of exotics. It would be too exclusive naturalism to admit none but native plants. All plants that grow under trees, and whose habit of growth makes them proper for companionship with trees and shrubs, may be used; but whatever the plants employed, it is essential that the flowering sorts should be grouped in the least shaded spots, whereas those whose chief beauty is their foliage, like certain sorts of Ferns, are happy in the thickets and shady depths of the wood.

EFFECTS OF SPONTANEOUSLY GROWING PLANTS differ slightly from those last referred to in the sense that instead of being a collection of many species they are confined to one, two, or three species of plants. Its simplest form is expressed by wide carpets formed of one kind of plant, presenting when in bloom a constellation of flowers to the eye. Such a carpet should be very irregular in form—that is, compact in certain places and in others more scattered, so as to admit other plants to grow in between. To a carpet made of herbaceous plants may succeed one of bulbous sorts, and *vice versa*. The plants increase, and in increasing naturalise themselves, so that after some years they seem to grow spontaneously.

EFFECTS OF TROPICAL PLANTS possess a character quite different from that of perennial plants, and they are not enhanced by their being placed in distant and out-of-the-way situations. The handsome foliage and brilliant bloom of exotic vegetation are well adapted to the accompaniment of fine buildings and the majesty of flights of steps and lofty terraces, therefore

they should be well in view of, and in the immediate neighbourhood of, the house, since their aspect is little suited to the more secluded parts of the garden. On the slope of a lawn in the front of shrubberies is their best place. Near waterfalls and rocks in the shade of great trees they are effective. The presence of Tree Ferns, of Palms, &c., imparts to the scene something of the effect of a tropical flora.

EFFECTS OF MEXICAN PLANTS.—These, which might be thought to be included in effects of tropical plants, have, in fact, a wholly different aspect, because in forming them use is made of *Cereus*, *Opuntia*, *Agave*, *Aloe*, *Euphorbia*, and in fine a whole series of succulent plants in appearance differing somewhat from those made use of in tropical effects. The effect of groups of Mexican plants is especially fine in the warm and much-broken-up parts of the garden, to which their strangeness of aspect imparts a quite peculiar character. The more uneven and rocky the site, the sharper the contrast between this species of vegetation and our own.

In the district of Paris tropical effects are possible only in summer, but in gardens of the Mediterranean region they are constantly to be admired, such as I have seen them at Cannes, Nice, Monte Carlo, Bordighera, Ospedaletti, San Remo, &c. In producing an effect of this sort it is necessary to avoid regularity as much as possible, as that would deprive it of naturalness; the majestic habit of some of these plants and the singular aspects of others are unsuited to symmetrical arrangement, at least when forming groups in broken-up places; in the adornment of terraces, as practised in the south, regular arrangement is unavoidable.

2. THE GEOMETRIC STYLE.

The geometric style, or "mosaic culture," is quite distinct from picturesque adornment. The principle and application of the two styles are dissimilar, although both aim at the decoration of gardens. In mosaic-culture symmetry is aimed at, in picturesque adornment symmetry is excluded. Mosaic-culture is the art, or at least the method, which consists in arranging plants in geometrical or fanciful designs in beds. In its very essence mosaic-culture is geometric, and thus justifies the application of this term to it. Naturally it is a style sub-divided into a variety of styles differing between themselves, not so much as regards design as in the arrangement of the plants, soil, &c. These various sorts of mosaic-culture are, it is evident, equally applicable to the permanent, winter, spring, summer, and autumn decoration of beds, borders, &c.

CARPET MOSAIC-CULTURE consists in forming designs and surfaces with plants of equal height and maintaining them in that condition, the effect of which is uniformity whether the composition is made on a flat or on a rounded surface. It is the sort most fitted for small beds and things in which simplicity should be the sole aim and wealth of details rigorously excluded. But it is different if the bed is a large one, in which case there is the danger of monotony on a large surface—a monotony accentuated by the abundance of detail and deprived of grace by uniformity in the size of the plants.

MOSAIC-CULTURE IN RELIEF differs in character from carpet mosaic-culture. It consists simply in placing in relief upon a foundation some parts and lines, or at least the principal lines, of the design. It escapes the affectation and the sometimes over-artificiality of the other; on the other hand, the lines of the design are clearly defined and their due value is accorded to them, which might otherwise be merged in the setting of the foundation. It would not be

* Translation of a paper read by M. Albert Mauné at the Congrès Horticole, 1898.

right to confine the composition to the regular outlines of beds and other formations, but rather some plants should be allowed to project into the sward, as if to continue the lines of the design. To complete the desired effect and soften the lines of the design, small groups of plants and single plants are scattered about and allowed to spring up here and there. Beds so composed have not that air of stiffness and hardness which causes so many to dislike mosaic-culture.

MIXED MOSAIC-CULTURE, or raised bedding, is a happy alliance of mosaic-culture and flower-bedding. It is simply an enlargement of the limits of mosaic-culture by the addition of plants different from those used in the formation of the design. I have seen some good examples of this in France, and it has many followers in Germany. Last summer in various centres of that country I saw many flower-beds formed in this manner. I should add that in Germany they have got beyond the strict limits of primitive mosaic-culture in applying it to large beds occupied by groups of large decorative plants; in most cases only the outlines are formed into designs pricked out in the sward and set with plants of lower stature. Unfortunately, many of these compositions, though excellently conceived, are not always carried out to perfection. It will be easily observed how much this differs from carpet mosaic-culture in not having its stiffness nor its primness and conventionality, and in preserving the beauty of the plants, those forming the foundation being the only ones kept in bounds. Contrasts of form are, therefore, not excluded and have the same value as harmonious contrasts of colour.

MOSAIC-CULTURE ON BORDERS differs from the last in the sense that, given a flower-bed or a group of shrubs of a certain design, the border is to some extent detached and forms no part of it, being kept within limits of its own; whereas in the preceding we have seen that the design of the border was in close assimilation to the inner bed. This species of mosaic-culture, in which the bed is set on a border of clearly-defined limits, takes in most cases the bed formation in affecting sometimes its indentations and convolutions on the surface of the lawn; but the inner line is mostly parallel with the outer, or, if not, it is so detached from it that they cannot be regarded as parts of the same bed. Here, therefore, we have two things which to some extent are the complement of each other, but which may very well be detached and carried out separately, which is not the case in mixed mosaic-culture. Mosaic-culture in borders is, therefore, to some extent the frame to another composition, which it serves to throw into relief by forming a distinct contrast to it.

3. THE MIXED OR COMPOSITE STYLE.

The mixed or composite style, which I will call floral adornment simply, is characterised by its unicolor or multicolor combinations in beds, borders, &c. It is the style most favoured in France. The chief object of floral adornment proper, as I understand it, is to obtain contrasts, either by the happy association of fine-foliaged plants, or of flowering plants, or of both together. This style is the harmonious mingling together, or rather assembling, of the two preceding, by borrowing regularity from the one and picturesqueness from the other. It is in some sort the concordance, the mediation, the correlation of those, just as in garden architecture the composite serves as the transition between the symmetric and the landscape styles. The mixed style includes beds of

various sorts, borders, &c., of any form, the plants being disposed with more or less regularity, but not affecting any design. It is easy to perceive the transition between mosaic culture on the one hand and picturesque adornment on the other, by the combinations of small plants arranged in unicolor lines, in which it approaches more to mosaic-culture, and the compositions in which large plants enter and which incline more to the picturesque. Beds of perennials, for example, are in their character and essence a very perceptible approach to natural grouping of varied plants, although possibly amid geometric surroundings. In a word, all regular or irregular formations, if disposed upon one or more lines, whatever the disposition of the interior, if not mosaic culture, are included in the mixed style. Let us now consider the principal kinds of floral adornment.

UNICOLOR COMPOSITIONS. — These are characterised by the use in beds of leafing or flowering plants of the same colour, with or without the intervention of lines of other plants; generally plants of medium height are used for this purpose. This style is used chiefly in the distant parts of the garden, because masses of uniform colour gain by being seen from a distance. Or, again, if several beds are situated in a relatively limited circle and comprised in one visual radius; in that case each bed should present a different colour, and all satisfy the view by fulfilling the principles that govern the association of colours.

COMPOSITIONS IN PARALLEL UNICOLOR LINES. — This, which differs from the preceding in that the variously-coloured plants are arranged in concentric and parallel rows more or less spaced out, is now little used. It is reproached, justly perhaps, with being not particularly pleasing and slightly monotonous. However that may be, and admitting the defects, it has the advantage of an orderly arrangement of the plants and of helping symmetrical contrasts of forms and colours, and, therefore, ought not to be despised in the adornment of beds, the more so as, instead of being bound to make each line a different colour, we are free to repeat the same plants in many parallel lines so as to get broad stripes of uniform colour.

SCATTERED GROUPS or multicolor compositions, as they may be called, are obtained by grouping plants of nearly the same stature and different leaf and colour of flower. The disposition is generally made regularly in symmetrical beds and borders, and irregularly in other beds. This kind of composition has certainly many attractions, especially in beds intended to be seen from near, because it allows of the grouping in a single homogeneous mass of a whole series of plants different in form and colour, fine-foliaged plants and flowering plants, but it is a mistake to use it for beds in distant parts of the garden.

PLANTING IN SCATTERED GROUPS is only a modified form of the preceding, differing from it in the arrangement of the plants in groups of several. Such a composition is preferable for distant beds, because the patches of single colour are larger and therefore more visible.

PLANTING IN IRREGULAR GROUPS. — This has considerable points of difference from the preceding. The name was suggested to me last year by seeing two beds so composed at the Municipal School of Arboriculture in Paris. There are several ways of applying it. Its chief peculiarity is in the disposition of large irregular groups of the same plants, or of different plants, and in the latter case plants of different heights can be employed. Its peculiar characteristic is precisely this, that it leaves a

wide field to the gardener in the formation of groups as regards the heights and colours of the plants, provided the general effect is agreeable to the eye. It is a form of garden adornment which deserves special attention, because offering variety and taking us away from hackneyed compositions in which only plants of like dimensions are used.

GROUPS OF ISOLATED PLANTS. In these, fine-foliaged plants are scattered and stand out from a base of other smaller plants, which are intended to show them off to advantage. Saving the last, all those methods just described must in some way be composed of plants of the same height. Beds arranged on this plan are meant to be seen from near; at a distance they produce only a relative effect owing to the great diversity of form, which remoteness blends into a mass, with none of the brightness of colour and elegance of isolated plants. It is not necessary that the isolated plants should be very high; the essential point is that they should stand out boldly from the background.

GROUPS WITH PLANTS OF LARGE GROWTH. This is applicable to flower-beds of large extent. It consists in grouping fine-foliaged plants, allowing sufficient space for each to enable it to acquire the development which is its beauty. But as when first placed in the beds these plants are small, in order to fill up the bare spaces between, other plants will have to be inserted until the first shall have attained their normal development. This kind of planting is not to be confounded with groups made of isolated plants, in which the plants are so placed as never to touch and the vegetation of the foundation is permanent.

MIXED GROUPS. — These differ from all those hitherto described in having a special application to large flower-beds and the regular borders of shrubberies. They consist in the association of outdoor plants with greenhouse, perennial, bulbous, annual, and other plants, and constitute a permanent adornment, being at their best from April to November. If made with care they furnish flowers in all seasons, and if, indeed, they do not give such brilliant effects, they are not so ephemeral as the beds of a season. It is a kind of adornment which has nothing formal about it, and which has surprises for all times. Side by side with an open flower it gives us another with buds as yet unopened. Beds so adorned, with their air of primitive simplicity, absence of premeditation, and diversity of mass and detail, exercise an indefinable but very powerful charm.

GROUPS OF TWINING PLANTS. — These are formed especially for shrubberies and are delicious in their prettiness. The branches of these plants entwine themselves amongst the shrubs and form a mass of delightful confusion crowned with an abundance of blooms. In addition to the kinds of floral adornment above described, there are many others which are not included in one or other of them, and it will be sufficient if I mention the fact.

4. APPLICATION OF THE DIFFERENT STYLES OF GARDEN ADORNMENT.

I think it will not be useless to compare each of these styles and shortly say how it is characterised.

PICTURESQUE ADORNMENT is the truest, and therefore seems to be the most natural, the most expressive, and the most æsthetic. It is not, however, wild Nature, nor does it borrow from that more than its most seducing aspects.

MOSAIC-CULTURE is the result of much study, like a new style in architecture. It is artificial in the complete sense of the term, but for that very reason it wins the admiration of the crowd

by the sense of difficulty overcome which it inspires.

FLORAL ADORNMENT is not, and visibly is not, the result of so much painstaking as mosaic-culture, and yet a handsome bed is most frequently only the result of very careful combination; but visually it does not seem to be as conventional as mosaic-culture. Many people have for it the sense of the beautiful which they feel in the presence of landscape scenery.

As regards the application of the different kinds of adornment in gardens, it would be rash to attempt to lay down rules which could have no force than so far as they satisfied the majority of tastes—a very difficult matter. Nevertheless, the application of every one of these three styles is governed by the surroundings. All are far from producing the same effect in a garden, and the impression they make upon us differs greatly for that very reason. There are people who like their flower-beds scattered over lawns, whilst others, on the contrary, have a preference for opening up fine prospects and will not tolerate the presence of any flower-beds to break the view. For those who do not care for flower surfaces regularly set out, what is wanted is some landscape effects made along shrubberies, near drives, &c., without, however, intercepting from the view that natural level of the ground which is one of the chief beauties of a park. The different parts of a garden or a park allow of the employment in various conditions of many plants calling for peculiar treatment. Thus in coverts and woods plants may be sown which thrive in these conditions, and carpets of flowers established in the clearings, and, again, the depths of woods will be a home for Ferns. And in order to avoid the appearance of abruptness, plants which are fond of half-shaded places may be scattered about the sward in the foreground. Rough parts and corners of the garden may be used to form a scene of alpine and kindred plants. It is a mere truism to say that aquatic plants and bog plants cannot be established in places where there is no water; but where we have a river, rivulet, or lake, in which to create a landscape effect of aquatic and bog plants, nothing is prettier or more picturesque than the vegetation of the waterside. Places near the house, the foot of terraces, or lawns are the most fitting for making effects of tropical plants; but, principally, it is near rocks and narrow streams that such effects are seen in all their beauty. Whilst the higher rocks are planted with Agave, Opuntia, &c., scattered over the lower ones will be Tree Ferns, Bamboos, Palms, &c. Such an arrangement not only gives a semblance of exotic vegetation, but recalls at the same time some corners of the beautiful Mediterranean coast. The borders of shrubberies, drives, and walks are the best fitted for the formation of hardy-plant and varied-plant views. Such plants must be disposed with taste in well-defined masses sometimes, and sometimes isolated and detached.

Whilst there are certain effects of landscape plants which are especially interesting when localised, it is quite otherwise with mosaic-culture. A design in mosaic-culture ought principally to be carried out in some part of the garden close to the house, or much frequented; in which case it may, equally with any other form of adornment, fulfil an end.

In a large garden, especially if the proportions are made to correspond with the surroundings, and even if the view includes an effect of the landscape order, a formation in mosaic-culture will not be out of harmony, especially if the mixed kinds are adopted, and in relief. In a landscape garden a bed in mosaic-culture

should be set in the very approaches to the dwelling-house, or at least near to it and in the line of view. Such planting may also be made near summer-houses and garden seats, if these are not placed in retired spots, and around trees and shrubberies; but, in my opinion, it is a great mistake to dot them over lawns, to the total exclusion almost of other kinds of ornamentation, as is frequently seen. In such a case a part of the garden will lose in harmony from this conventional decoration.

In floral adornment, properly so called, there is no need whatever to observe such absolute restriction, although neither should the flower-beds be scattered about at random. In landscape gardens of average size numerous flower-beds are placed about near the dwelling-house and places that are much frequented. In villa gardens in the suburbs of large towns, to make up for the absence of exterior views, views are

ter of the place. That opinion is not exaggerated. Here is an example. In the gardens about Paris it is the practice to form effects of alpine plants in the most distant part of the garden; in mountainous parts of the country, on the other hand, there is no hesitation about establishing them close to the house, and that seems to be in no way remarkable. Under the blue sky of the Mediterranean, however, fine exotic plants are grouped as much in the remoter parts as in those near to the house, and it seems the right thing to do, as the plants grow naturally.

GARDEN FLORA.

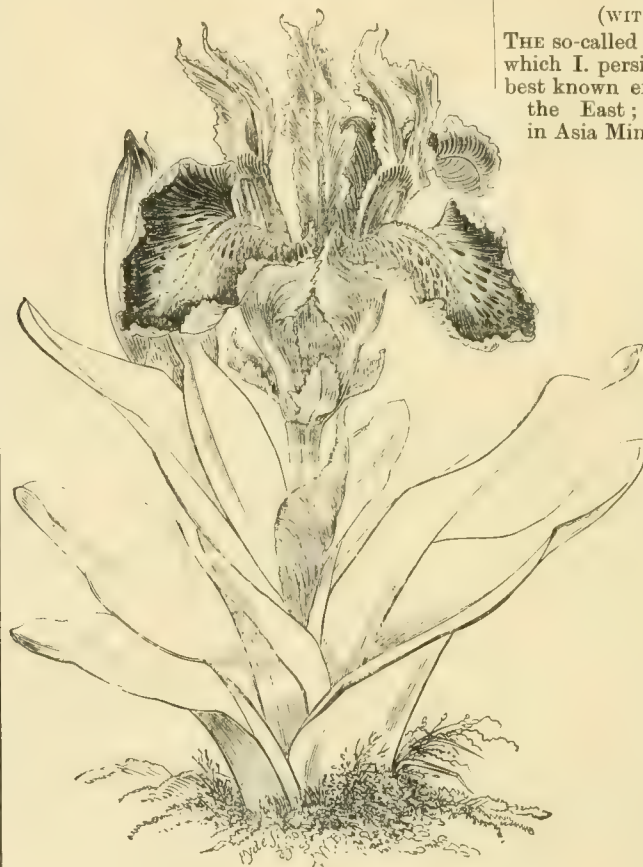
PLATE 1182.

IRIS AITCHISONI.

(WITH A COLOURED PLATE.*)

THE so-called Juno group of bulbous Irises, of which *I. persica* and *I. alata* are perhaps the best known examples, has its headquarters in the East; the species are most abundant in Asia Minor, Persia, Turkestan, and Bokhara. Towards the west the group is represented by *I. alata*, reaching to Southern Spain and Algiers. Towards the east the group reaches into Afghanistan and the Punjab, and is here represented by three very well-marked species, *I. Stocksii*, *I. Fosteriana*, and *I. Aitchisoni* (I omit the little-known *I. drepanophylla* of Baker), which put on very special characters. The leaves, instead of being fairly broad, as in *I. alata* and others, tend to become very narrow, almost linear, and the bulb, instead of being thick and fleshy, becomes narrow and thin.

I. Aitchisoni was first described by Mr. Baker in the "Journal of Botany" for 1875 (p. 108) from specimens gathered near Mount Tilla, in the Jhelum district of the Punjab, by the distinguished botanist Dr. Aitchison, whose services in the Afghan campaign, and later in the Boundary Commission, are so well known. Naturally, it was named after him. It is also said to have been gathered in Afghanistan by Griffith. The bulb is long and slender, with reddish brown tunics, and the fleshy store roots, so characteristic of the Juno section, are also slender and delicate as compared, for instance, with those of *I. persica*. In these respects *I. Aitchisoni* resembles *I. Fosteriana*. The leaves are narrow and lax, and the stem, a foot or more in height, bears one, two, or three flowers. The flower resembles that of other Juno Irises in that the inner segments of the perianth, or "standards," are small, narrow, and extended horizontally, not erect, but differs from at least the majority of them in that the outer segments, or "falls," have no wing-like lateral expansions. The fall is broadest where the blade joins the claw, but is not extended here into a definite wing. The styles, as in other Juno Irises, are large and conspicuous.



Iris alata.

made in the garden itself by focussing them on the flower-beds. Great restraint should be exercised in the distribution of flowers in large parks, especially if these are of the picturesque order; it is important to observe that air of naturalness which the architect has impressed upon them, and not stultify his work by scattering here and there flower-beds which are in fact only suited to the entrances and to the approaches to the dwelling-house. It is different, however, in the case of public gardens, in which the taste is generally for profusion in flowers, especially if the gardens are small. In large parks the distribution of flowers may be more moderate. It goes without saying that geometric gardens are in all respects a fitting framework for floral adornment. I have said that it is well to subordinate ornamentation to the charac-

ter of the Juno section, are also slender and delicate as compared, for instance, with those of *I. persica*. In these respects *I. Aitchisoni* resembles *I. Fosteriana*. The leaves are narrow and lax, and the stem, a foot or more in height, bears one, two, or three flowers. The flower resembles that of other Juno Irises in that the inner segments of the perianth, or "standards," are small, narrow, and extended horizontally, not erect, but differs from at least the majority of them in that the outer segments, or "falls," have no wing-like lateral expansions. The fall is broadest where the blade joins the claw, but is not extended here into a definite wing. The styles, as in other Juno Irises, are large and conspicuous.

* Drawn for THE GARDEN from flowers sent by Professor Michael Foster, Cambridge. Lithographed and printed by J. L. Goffart.



IRIS AITCHISONI

The specimen figured in the plate is the typical form, purple of one shade or another being the dominant colour. The claw of the fall is marked by radiating purple veins on a creamy yellow ground; these over the blade are fused into a general ground colour of very rich deep purple, with which the full bright orange of a short raised median crest forms a pleasing contrast. The styles are of a lighter purple, and the slender horizontal standards are nearly white except at the purple tips. There is also a distinct golden yellow variety, the var. *chrysantha* (Baker), which Dr. Aitchison says is a stouter plant than the type. The plant occurs near Rawul Pindi, and on the road thence to Peshawur, the first specimens ever collected being gathered by Vicary in the first Afghan campaign, at the Murgullah Pass on this road. It is also found at Mount Tilla, in the Jhelum district, and throughout the salt range. The yellow form has been found only in the Park at Rawul Pindi, but Aitchison, in 1893, transplanted bulbs of it thence to Mount Tilla. Griffith also gathered the species, probably from the Rawul Pindi source, though Otipore, in Afghanistan (not Otipore, in India), is quoted by Boissier as Griffith's source.

I fear the plant, charming as it is, will never flourish in our English gardens. Left to itself, it starts into growth in October and November, but is wholly unfitted to withstand an ordinary English winter. Nor is there much hope of keeping it by taking it up and planting it late, for, like *I. Fosteriana*, it very much resents being moved, a feature which is probably connected with the slender character of the bulb. In general, it needs the treatment of other Juno Irises, but even more than most of them needs a summer's baking. M. FOSTER.

THE WEEK'S WORK.

HARDY FRUIT GARDEN.

PEACHES AND NECTARINES.—ROUTINE WORK.—Continue to follow out the instructions given anent those trees from which the fruits have been gathered, taking particular care that none of them are allowed to suffer from want of water. Do not allow the borders to be trodden upon directly, but, in the absence of trellises, lay down boards. If by any chance such has not been the case, look to it at once and gently break up the surface. Then, when watering is done, a more equal distribution will be secured. More water is needed around the stems and at a moderate distance from them than is the case towards the extreme parts of the border. With the late warm weather it may be possible that red spider is gaining ground; if so, give more frequent syringings. The extremities of the trees are oftentimes the first parts to be attacked. If any trees still show signs of making growth, which it is plain to see will be superfluous, remove all such by degrees if very sappy, so as not to again set up reaction. Afford a generous treatment to all late crops, especially so in the case of such as Sea Eagle and others, which oftentimes bear profusely. Still continue to give these manurial stimulants. That from the farmyard or other cess-pools will answer well; blood manure will not be too exciting where the trees are heavily laden. It pays to have provision made under glass for the latest of our Peaches and Nectarines. Oftentimes on the open walls they do not mature in the most satisfactory manner, yet it is a most indispensable crop—as at the commencement of the shooting season, for instance. When Peaches and Nectarines can be continued well into October they are a great acquisition to the dessert.

LIFTING THE TREES IN THE EARLY HOUSES.—Perhaps some may be disposed to think that this work is as yet somewhat premature. Such, how-

ever, is far from being the case. Mr. Speed, Penrhyn Castle Gardens, makes it a rule to lift his trees almost, if not quite, every season, as he finds by so doing he is more certain of good crops. Let those who are troubled by non-fertility or other failures take note of this and give the system a trial. The plan adopted is to lift the trees thus early, say by the middle of August, whilst the leaves are still upon them in a fresh condition, but not in a sappy growth. Fresh soil not being needed every year, the question of labour only is

work earlier in the case of large trees or younger ones that are all too luxuriant when under glass is an advantage that must be apparent.

POT TREES.—Where the fruits are all gathered from these, the trees, if not too large, should be stood outside in a sunny, well-exposed situation. Not only will this treatment be congenial to them, but it will afford room at the same time for those things which may need thinning out from other houses. If a plot of ground be vacant, these pot trees should be plunged upon it at about the same distance apart as when growing and fruiting under glass. Thus treated the wood will become thoroughly well ripened by potting time early in next month. When plunging these trees take the precaution to place a brick or two under the pots to ensure a clear passage for the water and around the pots a few shovelfuls of cinder ashes to keep away the worms, which will be first attracted by the moisture, and afterwards be tempted to gain an entrance into the pots. By plunging the trees they are safer also when strong winds prevail. See to it that these trees do not suffer from want of water. They will not, as a matter of course, need quite so profuse a supply, but yet a fairly good quantity. Late pot trees upon which the fruits are still green, such as late kinds, should be mulched if they are bearing good average crops of fruit. It will assist them to finish their crops and save a little watering at least. Plums in pots require the same treatment. These I find quite indispensable for supplying first-class dessert fruits during September, particularly towards the end of the month. Where Plums are a reliable quantity on walls outside this may not apply with so much force. Under glass the best dessert Plums do not crack during wet weather, whilst they are easily made safe from the attacks of wasps. Their culture also in pots is not by any means difficult.

APRICOTS.—These where protected by glass will need more watering than when on the open walls, otherwise the fruits will not be so juicy. Rich and luscious they may be, but when shrivelled they do not look quite so tempting when placed upon the table. In order to avoid any excessive watering being necessary a mulching of short litter will be an assistance, not so much a manurial mulch as one for preventing excessive evaporation. Do not in any case foster or otherwise encourage a rank growth, to which young trees are often liable; this will ultimately engender that much-to-be-dreaded disease the canker.

As soon as the fruits are all gathered a good washing will do the trees good.

CHERRIES.—As indoor permanent trees these are not grown so much as they might be. The time-honoured plan of taking off the top lights answers well for Cherries. It should be done as soon as the crop is all picked, when also, as in the case of Apricots, a liberal use of the syringe occasionally will clear away any insect pests. With the removal of the top lights do not, however, be betrayed into a sense of security as regards watering, but rather give a liberal supply with, in



Iris persica.

taken into account. Care should be taken that the borders are in good working condition for moving the soil. Let the work be done expeditiously, and if need be shade the trees for a time afterwards as well as during the process of lifting. Use the syringe also to prevent the leaves from withering and the shoots from shrivelling. That this early lifting is sound in practice everyone knows who has had charge of these fruits in pots, the potting of which is better done quite early in September when standing outside. To do the

addition, a dressing of either bone-meal or an artificial manure with a good percentage of phosphates. This will provide them with the needful food for passing safely through the stoning process another season.

OVERCROWDING FRUIT HOUSES.—This matter has been alluded to before, but it will bear repetition now. It is bad alike for both the permanent occupants and the temporary ones. In the latter case a weak, spindly growth is oftentimes the result, whilst it is at the same time a means of communicating such insect pests as the mealy bug and various forms of scale, where otherwise in most instances the fruit trees would be free from them. Too many plants are frequently grown and too much is oftentimes attempted in this direction, to the detriment of all concerned. Clear out wherever possible is the advice now given.

ALPINE STRAWBERRIES.—Those plants which commenced to bear at the same time as Royal Sovereign are still giving good returns, quite equal in fact as regards size and even better as regards flavour than the earliest. Another fortnight's supply at least even with the dry weather is quite possible. By that time the plants raised last year from seed will be in good bearing condition. These in relays will then carry on the supply towards the end of October without any difficulty. So far this season the birds have given but little trouble; the later crops, however, will almost be certain to be attacked. It may possibly be the preponderance of insect pests which has attracted more of their attention. The seedling plants of this year are all now planted out from the boxes in which they had been nursed, the favoured spot being under a high wall facing east. There they will remain until a plot of ground becomes vacant in October.

HORTUS.

KITCHEN GARDEN.

GENERAL WORK.—Owing to the drought it will not be an easy matter to keep crops going. Peas are soon over, and this is to be regretted, as the crop this season was a heavy one. For later crops it will be necessary to mulch and water freely to keep the haulm in a healthy condition. I notice dwarf Beans are becoming badly infested with red spider, and to check the spread of this pest I would advise watering overhead late in the day to keep the foliage moist at night. This will prevent the pest gaining headway. Winter green stuffs will need moisture to keep the root growth active, and a thorough watering is preferable to dribbles. Plants placed between rows of Potatoes should now have full exposure, as the tops may be reduced, or, at any rate, bent over to give room. A weak plant will not have time to make up lost time when the Potato crop is lifted. Celery should be flooded once or twice a week to prevent the roots drying, and late-planted Leeks will need similar treatment; indeed, much time will be taken up in supplying moisture till we get a change in the weather. Small seeds sown as advised a short time ago will make slow progress unless given ample moisture. Germination may be hastened by covering with mats till the plants show through the soil.

ASPARAGUS.—I find the growths are none too strong this season, and in light soils lost time may still be made up by liberal supplies of food and moisture. I would strongly advise feeding now rather than in the late autumn, as is often done when top growth has ceased, as now the plant will benefit greatly. Few foods are superior to liquid manure where it can be obtained, and if a system of irrigation can be followed so much the better. Beds on the flat are less influenced by drought than raised beds, and in the former position moisture can be given in larger quantities without running to waste in the alleys. It must be borne in mind that the roots are far-reaching, and the moisture given should be liberal. Soot and salt are excellent at this season if there is an ample supply of moisture after the dressing is

given. Nitrates and such food as guano and fish manure may now be given. Any of these latter are best given, say, every ten days in small quantities in preference to large doses less frequently. Recently planted or sown beds will need more frequent supplies, as the root-hold is small. The plants will also benefit by a mulch of spent manure over the surface. Failing this, it is a good plan to hoe frequently both before and after giving food or moisture.

SEAKALE.—Plants intended for early forcing may with advantage get attention, and if liquid manure can be spared, give the same liberally and as often as it can be spared. The larger plants for forcing should have the small side growths removed. One crown in most cases will suffice, and all flower-heads should be cut off. It is well to give the plants ample space to develop the top growth, as upon this will depend the size of crowns made. Much the same advice holds good as regards the supply of food as advised for Asparagus, but Seakale will take it stronger, as the fleshy roots will soon absorb the food given. Soot and salt, or any food of a saline nature, suit Seakale, and now is the best time to apply the same. Whatever is given should be of a quick-acting nature. This should be conveyed to the roots freely by irrigation or liberal supplies of water. Young plants should be thinned, if at all thick, to give the leaves space, as if at all crowded the crown growth will be weak, and even if not needed for forcing this year, supplies of salt and soot will be well repaid.

VEGETABLE MARROWS.—These are fairly plentiful, and the supply may be kept going over a much longer period if a little extra attention is paid the plants at this season. After hot dry weather Marrows are frequently badly attacked by mildew, and to prevent this I have cut back the old foliage freely, shortened long trailing growths, and obtained new ones closer home. Plants in full bearing will be benefited by copious supplies of liquid manure, and if a mulch of decayed manure can be given they will suffer less from drought, and fruit till cut down by frost. It is not a good plan to allow these plants to go just where they like; much better thin out any crowded shoots and frequently stop others. Plants in bearing should not be allowed to mature seed; indeed, the fruits should be cut before the seed forms. If seed is needed, much better let one plant carry the seed crop, as it is certain that mildew will fasten upon plants in a crowded state or bearing small and large fruits. Late plants for an autumn supply should not be allowed to bear heavy crops till there is plenty of bine, and these may be fed liberally from this date.

EARLY CELERY.—The season of late has not been all one may desire for Celery, as unless copious supplies of moisture can be given it is useless to advise earthing up. With early Celery there is a difficulty, as with the best possible culture the plants bolt or become pipy, and then are useless. To prevent this it is far better to delay moulding up and give copious supplies of moisture. I find it a good plan with dry soil to earth the plants up gradually; this allows moisture to be given freely, as if a final earthing up is given it is a difficult matter to reach the roots afterwards. Only earth up sufficient for immediate wants; far better allow plants to make their growth than retard by premature earthing. Plants in full vigour will now take liberal supplies of food. I have great faith in soot and salt, these adding greatly to flavour and keeping slugs at bay. I have seen Celery flooded with crude liquid manure, and it should be toned down, as, though less injurious given now than later in the season, if at all rank it will cause premature decay in the centre of the plants. Far better dilute the food given and then there will be less fear of injury later on.

DWARF BEANS.—I find a quarter of late-sown French Beans of great value at the latter part of September, as though we may get enough frost to injure the old plants that have been some time in bearing, the younger ones on a sheltered border may be saved. Another point deserving atten-

tion is that dwarf Beans in the autumn are always welcome, as they are much liked with game. In exposed gardens I have sown this crop in turf pits or in positions where a movable frame can be placed over the plants. For the purpose named a dwarf variety, such as Syon House or Early Favourite, will be most suitable. The latter I prefer, having a stronger haulm, and, though dwarf, it is most prolific. The soil should be well enriched, and it will be advisable to sow in deep drills, these preventing moisture escaping. If the soil is dry, it will be well to soak the drills previous to sowing to assist the seed to germinate quickly, as the season of growth is now none too long. This will be preferable to soaking the seed, as the soil being warm root growth is rapid. I sow in rows 2 feet apart, and thin the plants to 6 inches in the row.

AUTUMN LETTUCE.—A liberal sowing made now will provide a late autumn supply, and, should any of the plants not turn in freely, these will be just the material for lifting and housing for December supplies. It is the large blanching Lettuce that frost injures most, and though it is now full late to expect large heads, they will be large enough for most purposes if the seed be sown now and the beds well supplied with moisture. It is too early to sow for what may be termed early spring supplies in the warmer parts of the country, as the plants would be too large. This sowing may be made towards the end of the month. What I would advise now is a quick grower. Golden Queen and Perfect Gem are noted for their quick growth, and Sutton's Intermediate, one of the newer Cos varieties, is a fine winter Lettuce. With the soil in a dry state it will be well to cover the seed-bed with mats to assist germination, and transplant as soon as large enough. For lifting into frames in the autumn I have found it advisable to sow in drills, thin out freely, and leave the plants needed for lifting. Grown thus they make a good growth by the end of October and are larger. The thinnings will provide a supply for the salad bowl during the month named if given rich soil and ample space.

HERBS.—Mint cut over early in the season will now have made a nice growth and be in condition for drying. This herb is always in request through the winter months, and to get the best flavour it should be dried slowly by spreading it out thinly on floors or shelves before tying up in bundles. Other herbs, such as Tarragon, need much the same treatment, and the Savory, both summer and winter, may now be cut. The latter is not always needed, as it keeps green, but in severe weather it is not always procurable. Rosemary is useful in a dry state, and any other sweet herbs should be cut and dried. I suspend mine in small bunches to the roof of a cool store, and here they keep grandly. If the supply of Basil be at all short a sowing made now will furnish good heads by October. This may be sown thinly in boxes or in a cold frame if the weather is hot and dry. Fennel and Borage may now be cut down to within 6 inches of the soil if seed is not needed. Garlic and Shallots are used largely for flavouring. These should be lifted and dried and stored in a cool place for later use. I find these keep best tied in small bunches, as advised for herbs, and hung up. S. M.

Crassula jasminae.—I quite agree with what "T." (p. 67) says of this useful summer-flowering plant, and wonder why it is not more often met with. Presumably the demand for this miniature Crassula is by no means brisk, for on inquiry last autumn at one of the principal London nurseries, it neither found a place in their catalogues nor among the large store of plants to be seen in almost endless variety, and when ordered from another source quite a different plant was sent. By reason of its waxy texture it is not nearly so fleeting in its blossom as many summer-flowering plants. Like many another greenhouse subject, too, a solitary specimen conveys but a poor impression of its value. If grown largely like

Cinerarias, Primulas, Carnations, and other kindred subjects its value would be considerably enhanced and particularly if its culture were well understood and encouraged. It certainly deserves better treatment than is accorded it at the present time, and all that is needed to bring this about is for one of the leading growers to take it in hand and place it before the gardening public in quantity, so that its intrinsic value can be ascertained.—S.

ROSE GARDEN.

ROSE CULTIVATION ON THE MEDITERRANEAN COAST.

IN the north the season of rest for the Rose bush is that which comes with the lowering of the temperature in winter. In southern regions it is during the summer that this occurs, being caused by excessive drought which puts an end to all vegetation. The period of rest, which it is so important to take into account, may be determined by causes diametrically opposed to each other, since by excess of cold or of heat the same result is brought about. With this difference, however, that on the Mediterranean shore, in spite of the excessive dryness which characterises this region and of the facility with which in many cases watering might be applied, the grower for market will take good care not to resort to watering if he wishes for a regular bloom in winter. The conditions of climate, which are so different in these two regions, although situated at a distance apart relatively inconsiderable, make all the difference as regards the time of pruning, which in the south is from the commencement of September until October or even later, depending on whether the grower has greenhouse or outdoor plants to deal with, and his object is to get an early or a late bloom. Some twenty years ago the cultivation of the Rose was more lucrative in the south than it is at present, owing to its inexpensiveness, as the only protection needed was the azure vault of the fair sky of Provence, and the pruning season lasted not nearly so long. To-day, however, when, owing to the demands of commerce, late Roses pay much better than early ones, all the energies of the grower are directed towards procuring late blooms, although, to make success certain, artificial shelter, such as canvas, mats, and glass, is required. Despite the praises lavished upon the climate of the Mediterranean shore by persons concerned rather with the poetry of language than with looking at facts from the point of view of practical horticulture, it is the fact that frosts from 1° to 3° are of such frequency, that almost yearly, at one point or another on the sea-coast, the Rose buds are regularly killed by frost.

The Rose Safrano is the most met with. Although constantly threatened with the loss of its throne by the advent of some new variety, it, nevertheless, holds the reputation which it has long enjoyed, and is still planted largely. Safrano is not given glass shelter; at most it is allowed the protection of canvas or mats in situations which are favourable to it as regards temperature. Temperature differs enormously at points distant only from each other by some hundreds of yards, according to the disposition or configuration of the hills which protect these plantations from the more or less direct influence of the sea, and particularly the hour of the day at which the sun shines upon the plantations; light shelters, moreover, being used only to protect the plants from the ill effects of morning frosts known to

all southern growers who have experienced their disastrous consequences.

At first sight it might appear that the time of pruning would have an enormous influence upon the time of bloom. For some years the most careful growers have devoted all their energies to obtaining plenty of bloom somewhere about Christmas and the new year, a period of great activity in the Rose market; and with this in view they are accustomed to prune about September 20. But there is nothing precisely settled, and, in fact, the period of pruning is only a secondary consideration. A Rose bush pruned in August will seldom start into growth before one pruned in September should the first rains not fall until October. Growers, however, who prune in August and are able to water their plants may easily get a part of the plants in bloom by the time of All Saints, a period when the market is also fairly active, especially if the frosts have been unusually early in the north.

The period when Safrano Roses are very difficult to obtain is that between the end of January and the middle of March, and yet just at this time it is most important they should be abundant in order to effect the most remunerative sales; and it is this consideration that has governed the operations of not a few growers, who, without taking any account of the means at their disposal or the situation—more or less advantageous—of their plantations, have not hesitated to prune very early or very late. This difference between the periods at which the pruning may take place with the same results—that is to say, regular production from January 15 to March 15—calls for a short explanation. Safrano Rose on the sea-coast flowers at two different times, the one commencing November or December. The cutting of the blooms, by necessitating the removal of the shoots at a certain length, fulfils the object of a green pruning and drives the sap back to the eyes of the base. This developing afresh forms new flowering shoots, which bloom, or at least form buds, and under ordinary conditions are ready to be gathered towards the middle of March or the first fortnight in April. In computing seventy-five to eighty days as the period necessary for a shoot to develop completely its bud, it would seem at first sight that, barring accidents from frost, the first gatherings made, say November 15, should cause the putting forth of new buds about January 15, and that, on the same principle, late pruning performed say in November, and in the absence of accidents from frost, the result would be the same. But this is not the case, because if a period of seventy-five to eighty days is sufficient for the complete emission of a bud, the condition is not impliedly fulfilled unless during that period the Rose bush has enjoyed by natural or artificial agency the influence of a sum total of 750° to 800° of heat. From September 15 to the end of November in the open air on the coast region this condition is always to a great extent fulfilled, but it is otherwise in the same region from November 15 to the end of January, a period in which the heat falls off several hundred degrees; so that the first gatherings coinciding with an epoch at which the fall in temperature is relatively more and more marked, the flower branches do not put forth their second blooms any earlier than those which were pruned at a later date, because, owing to that very fall of temperature, the first remained latent for several weeks.

The southern growers then make a mistake every time that, by early or late pruning, counter pruning, or removal of shoots, performed without other adjuncts than that of

matting and canvas, even in places reputed to be the warmest, they aim at regularly producing the Safrano Rose from the end of January to the middle of March, because they are shutting their eyes to the fact that the bloom, or fruition of any plant whatever, is not governed by any set period of time, but rather by the sum total of necessary warmth which it receives during such period. M. VRAY, in *Journal des Roses*.

Rose Violette Bouyer (H.P.).—It is said that this variety originated from Jules Margottin, and it is not a difficult matter to accept the statement. It has the fine vigorous growth of the grand old favourite, but here the likeness ends, for Violette Bouyer is in colour a lovely white, usually suffused with the most delicate shade of pink. The flowers are very double, globular in form and very freely produced. Unlike many of the H.P.'s, the flowers of this open almost simultaneously, affording at once a grand sheet of blossom. It is several days earlier than its larger rival, Merveille de Lyon. It has also another advantage over the last-named, and that is in its fragrance. I can recommend it with every confidence to anyone desirous of obtaining a good Rose to cut from. I never have seen this Rose so lovely as it has been this year.—P.

Weeping Roses.—There is an indescribable grandeur about perfect specimens of these weeping Roses that I am surprised they are not more frequently seen. To those who have space I would recommend them to try a few this coming autumn. Cultivate them well, do not touch them with a knife, and in three or four years splendid heads will be formed. Imagine a *Félicité-Perpétue* or a *Ruga* upon a 6-foot stem with the graceful shoots reaching almost, if not quite, to the ground, and wreathed all over with the fragrant blossoms. To add a touch of brilliancy, some *Crimson Rambler* upon stems the same height would indeed make a most glorious display. There is not quite the same graceful style in this Rose as belongs to the *Ayrshires*, but it makes up for it in colour. Alternate trees of *Crimson Rambler* and *Félicité-Perpétue* planted alongside a spacious promenade could not be surpassed for beauty.—P.

The Garland Rose (Hybrid Musk).—This is well named, its huge panicles forming a veritable garland of creamy white blossoms. The tiny flowers as they open are of a lively buff shade, changing to pure white as they develop. It is very interesting to see the two colours mingled upon the same panicle. This variety forms an ideal pillar Rose, rampant and graceful. The growths darting out here and there among the huge bunches of flowers take away all stiffness of outline unfortunately so common among pillar Roses. Possessing as we do such a Rose as this, one need not be at a loss what to plant as a fitting companion to *Crimson Rambler*. This variety and *Félicité-Perpétue*, with, perhaps, *Aimée Vibert*, form grand contrasts to the ever-popular Rose named. To obtain the best effects they should be trained to 10-foot iron stakes. When these are covered (and they will be in an incredibly short time) the grandest form in which to grow these Roses will be made abundantly evident.

Rose Reine Olga de Wurtemberg.—When ordering a number of Roses for planting in the autumn of 1896, one plant of the above variety was included in the list. Last year, owing to the drought, both it and the other sorts made but little growth, but they formed an abundance of roots and became well established by the end of autumn. This season top growth has been more proportionate, with the exception of the above-named variety, which has already outgrown its allotted space. It is a rampant grower, and is more suitable for planting to cover a rough wall, an arbour, or some situation where it could grow away in a half-wild state, when it would no doubt reward its owner with an abundance of its semi-double brilliant red flowers. It evidently does

not like restriction, and other quarters will accordingly have to be found for the plant this coming autumn, and where it will feel more at home. For cutting it is of but little use except in the bud state. It is a charming Rose, for which a position such as has already been hinted at should be found in every garden, provided the necessary space is available.—A. W.

A noble climbing Rose.—Gustave Regis puts all in the shade here for glorious colour, its fine dark stems and foliage adding another distinction from other yellows. The description hardly corresponds with that of the note in THE GARDEN of July 23, but that may be from the situation it grows in. Here, on a rough wall 15 feet high, in full south aspect, it rambles about in the open orchard with hosts of others, including Maréchal Niel. On comparing the two—both grown outside—Gustave Regis has by far the richer colour, and if it does so well here (N. Derbyshire) it should become more popular. How beautiful these wall Roses have been, and no doubt will be again later on, as they generally are here. I could not help filling the box with Celeste, the loveliest of bud Roses, and growing away happily anywhere either in sun or shade.—GEO. BOLAS, *Hopton Hall, Wirksworth.*

Rose Homere.—A couple of years ago, owing to alterations in the kitchen garden, I had occasion to shift a lot of old standard Rose trees on to a piece of grass recently enclosed. Judging by the appearance of the stems, the plants must be twenty years old at least, and it seemed doubtful if they would stand disturbing. All had evidently been closely clipped back for years, so they were simply lifted and planted carefully, staked, and mulched. They have not had a knife near them since, and all have made grand heads that have been covered with bloom this season. Among them was a plant of this beautiful old variety, and my object in writing is to note what a grand thing it is when grown thus loose and unpruned. Hundreds of flowers in all stages of development are now open, and after the heavy rains the foliage is fresh and green, forming a delightful picture. Closely-pruned standard trees are not pretty, but these great heads are quite a feature in any garden, large or small.—H.

Rosa gigantea.—A flowering specimen of this species, says the Kew Bulletin, has been received at Kew from Mr. T. H. Hanbury, La Mortola, Ventimiglia, Italy, with the following information under date of April 26: "On Sunday I saw *Rosa gigantea* in full bloom on the façade of the Chateau Eleonore at Cannes, the residence of Lord Brougham and Vaux. The plant is growing in a box measuring, perhaps, 2½ feet by 1 foot by 1 foot, and I should say that this box must be entirely full of the roots of the plant. The colour of the buds reminded me of those of the Rose Wm. Allen Richardson, but under the strong sun it opens very quickly and looks almost white before the petals fall." *R. gigantea* was discovered in Burmah, on the Shan hills plateau, at 4000 feet to 5000 feet, by Sir Henry Collett, K.C.B., and also in Manipur, at an altitude of 6000 feet, by Dr. Watt. At first there seemed hopes that this fine climber would succeed on walls, &c., in sheltered places in Britain, but although several plants at Kew and elsewhere withstood—with comparatively little protection—the severe winter of 1890-1, that of 1892-3 killed all of them outright. At Kew it grows vigorously under glass, but, so far, has not flowered.

Rose Climbing Souvenir de la Malmaison.—It is interesting to see this climbing form of a grand old Rose flowering profusely this year. As it grew so freely as a young plant and never produced a bloom, it was feared that it was going to turn out a shy variety. However, this season plants left at pruning time with 8 inches or 9 inches of last year's growth are now yielding quantities of buds, which disposes of the doubt alluded to. Everyone knows the old variety, how free-flowering it is and how useful in autumn, but it may not have occurred to many that an effective arrangement of this Rose can be produced by

planting its climbing form in the centre of a large bed, surrounding it with a quantity of the old dwarf form. The centre plants could have the support of about 5-foot stakes, and the remainder of the climbing form be treated as bushes. Thus, instead of having a flat mass of blossom, one could obtain an almost pyramidal formation, which would be a very telling feature in the garden. As an additional attraction one could plant an outside bordering to this bed of that very beautiful sport of the old Malmaison, namely, Kronprinzessin Victoria, for its sulphur-white blossoms are very lovely, and an agreeable contrast to the shell-pink flowers of its parent would be obtained.—P.

Rose Hon. Edith Gifford.—This is one of the best of the Teas and a good Rose for any position. The white of the flower is relieved as it opens by a tint of rose, while either in the bud or when fully open it is an exquisite Rose. It is also a good grower, with handsome foliage and flowers profusely. Plants put out last November and cut quite down to within a couple of inches of the ground started well, and are now nice bushes a couple of feet in height and carrying a number of fine blooms. Many growers, having the idea that these Teas will not stand pruning, leave them after planting with all the small wiry spray as they come from the nursery. With plants from pots the harm is not so great, but



Rhododendron Nuttalli. From a photograph sent by Mrs. Lawrenson.

when they are lifted and every bit of soil taken off to save weight the roots cannot possibly stand the strain. Not only this, but even with established plants weak shoots must break weakly and all such spindly wood should be taken out. The safest plan is to get the Roses in as early as possible, and if cold winds or frosts seem imminent to mulch at once. Then, instead of leaving the heads to gradually die back cut them back to firmer wood at once, and in spring prune rather severely. This will lay the foundation of a good tree, and subsequent pruning will consist only in taking out weak wood that is not likely to flower well. There is no comparison between such plants and others left with the heads drawing away at the roots all winter.

Two useful early Roses.—Although very old-fashioned, the Gallica and Damask Roses give us several useful kinds for early cutting or for garden decoration. Two of the best and earliest are *Blanche fleur* and *La Ville de Bruxelles*. The former is a very free, hardy sort, yielding quantities of white blossoms. As it appears before *Mme. Plantier*, it comes in most use-

ful for cutting early. It is summer flower only, therefore the shrubby border is the best place for it. Good plants upon their own roots quickly increase in size, and by pegging down the growths a broad mass of it is produced, which when in full blossom is very effective. The other variety, *La Ville de Bruxelles*, would make an excellent contrast to the above, and flowers at the same time. Its blooms, so freely produced, are of a beautiful lively rosy pink, paler at the edge of the petals. Like most of its tribe, the flowers are very flat, but they are very double and last a long time. The French and Damask Roses are extremely free growing and hardy, but in many cases advantage is taken of this fact to allow the plants, as it were, to care of themselves. I think this is a mistake. Give them the same treatment as we afford our exhibition Roses, such as thinning the growths and manuring, then flowers and foliage of surprising beauty will be the result.—P.

TREES AND SHRUBS.

RHODODENDRON NUTTALLI.

THIS was introduced from Bhotan in 1859. In its native mountains it grows from 10 feet to 30 feet high, and is frequently found growing as an epiphyte on the trunks or limbs of large forest trees. It is one of the largest flowered and most handsome of all the Indian species. There is no difficulty in its cultivation. The specimen from which the photograph was taken has been in possession of the owner, Mr. James Thompson, J.P., of Macedon, co. Antrim, Ireland, for above four years, and has always been in an unheated orchard house, not receiving any particular attention. It flowered in 1896 and again this year. The photograph was taken by Miss A. Bland.

Azalea viscosa.—Since the middle of June and throughout the whole of July lovers of pretty hardy plants have been able to enjoy the white sweet-scented flowers of *Azalea viscosa* (L.), known as *Rhododendron viscosum* (Torr.). The bush reaches, as a rule, 2 feet to nearly 4 feet in height. It was introduced from Virginia in 1734, and seems to be rather overlooked now-a-days—wrongly, to be sure. There are numerous varieties, among which are *A. v. tomentosa*, with red flowers; *virens*, with glossy leaves; *scabra*, with rough leaves; *tardiflora*, or *serotina*, which flowers early in June; *purpurea*, with purple flowers; and *nitida*, with white flowers tinged with red.—*La Semaine Horticole.*

The Jerusalem Sage (*Phlomis fruticosa*).

—Though the order Labiata is a very extensive one, very few members of it find a place among our hardy shrubs, and, indeed, those few must be regarded rather as of a sub-shrubby character. One of the most noticeable of all is the Jerusalem Sage, which is a decidedly striking plant, and one, too, that will hold its own and flower well even in dry, sandy and stony soils; in fact, under such conditions it forms a more lasting shrub than it does in a good moist soil, for though its rate of growth is under such conditions more rapid, after a few years it commences to decay. The Jerusalem Sage forms a somewhat open bush that reaches usually a height of 4 feet to 6 feet. The stout branches are clothed with rugose leaves of a peculiar hoary character, while the flowers, which are borne in whorls on the points of the shoots, are large and of a rich bronzy yellow colour. It blooms as a rule during two or three months of the summer.—H. P.

Solanum jasminoides.—This is one of the most beautiful of climbing plants, and yet as such one of the rarest. It is also much more hardy than many people suppose, and this in

districts where its hardiness may in some measure be open to doubt. Quite recently we have seen this exquisite climber in a Thames-side garden flowering freely over a wire archway, and in a position, moreover, that at high-water mark has more than once been covered with from 2 feet to 4 feet of water. The pure white trusses of its flowers are so beautiful amid the dark green of its somewhat shining leaves as to always attract notice when the plant is in flower. The position best suited to it is a warm, sunny spot, yet in such that it is not allowed to suffer through lack of moisture. In the garden referred to no special soil was given at planting, yet it would appear to have a preference for peat and loam in about equal parts with root moisture in summer. The other day we noticed a nice batch of *S. j. floribunda* flowering with great freedom in quite small pots in Messrs. Veitch's Chelsea nurseries, the mass of flowers very chaste and pure.

ORCHIDS.

DISA GRANDIFLORA.

It is remarkable how many exhibitors fail with this showy Orchid, while others less skilled in Orchid culture can grow it with apparent ease. There is no doubt that a good deal depends upon the position in which the plants are grown, and that there are houses in which it is quite impossible to cultivate it well. It is difficult to say why, for apparently one house may be as suitable as another, yet in one the plants go on and improve every year, while in the other they cannot be induced to thrive or increase. The most likely place is one where the temperature remains constantly low all the year round and the atmosphere is continually moist, though with plenty of fresh air moving about over the foliage. Such positions are, of course, not easily found, as the air currents in the majority of cases soon sweep away the moisture, and on hot, sunny days it is difficult to keep the house at all cool without shutting it up close and shading heavily. Shade the plant must have, as a matter of course, but light is also essential, and this is where many such houses are found wanting. A heavy, thick mat or some such substance is used, and this effectually bars the passage of light and to a certain extent air also. Many again err in pulling the plants about too frequently and at all sorts of unseasonable times.

The plants vary in their time of flowering, and any that are now in bloom may be repotted as soon as the flowers have faded. Earlier plants may go into a cold, shady frame, or even be stood out of doors for a time, and be repotted after a little ripening up. But ripening up must not be confounded with drying off, for to dry the plants at this time of year will do more to ruin them than anything else. The new roots that are produced now and a little later will serve to re-establish the plants after repotting. It is well to get away as much as possible of the old material from the roots, as they abhor nothing so much as a close, heavy, and sour condition. To prevent drying, lay the crowns on damp Sphagnum Moss while the specimens are being made up. The plant has a very fine effect in large deep pans of good width, especially if extra strong crowns can be procured. A specimen with ten or a dozen spikes has a very fine appearance. Single crowns may also be grown in 6-inch pots well drained, in a compost of two parts of Sphagnum Moss to one each of peat and loam fibre, adding crocks and charcoal freely in large or small lumps, according to the size of the plants.

If convenient, the pans may be surfaced with Sphagnum Moss, as this does away with the necessity for heavy waterings during late autumn and winter. Moisture, of course, is required even now, but if it can be provided or rather conserved by these means, it is much better than continually pouring the water on. Great care must be exercised when picking over the Moss for this purpose, for perhaps there is hardly another species of Orchid of which small snails are so fond. Even when not present in the pans, they find the young growths out by some instinct and do incalculable harm in a very short time. When growth is getting well away the plants require a great deal of water both at the roots and overhead, light sprinklings from the syringe several times daily being of great assistance in keeping down blackthrips, their worst insect enemy. *D. grandiflora* is sometimes grown in prepared beds of compost in a suitable house, and in such positions the young offsets are very freely produced. When it can be induced to thrive in such a position it does remarkably well, owing to the freedom the roots obtain.

Saccolabium Blumei.—This lovely old plant is now in full beauty, the long cylindrical racemes of flower being grand, especially when seen upon small plants growing in baskets. These hung from the roof of a warm house thrive well, as they enjoy the light and free air circulation better than a stuffy, moist heat. Clean Sphagnum Moss and abundance of crocks and charcoal suit it well for compost, and no dry rest or cool treatment is necessary to induce it to flower.

Miltonia Moreliana.—This is handsome in its best forms, the bright rosy purple lip with deeper lines being most effective. The flowers appear singly and last well in good condition, the plants if healthy and well rooted carrying them until they fade. *M. Moreliana* is, botanically speaking, a variety of *M. spectabilis*, and one of the finest of Miltonias. It may be grown on rafts with a surfacing of compost, or in shallow baskets in peat fibre and Moss over good drainage. The colour of the foliage is usually pale yellow, but this is not a sign of ill-health.

Oncidium crispum aureum.—Flowers under this name come from R. Roberts. They appear to vary little from those of *O. c. flavum*, though the yellow tint is very rich and the individual flowers are large. Large spikes with many flowers of this variety have a bright and pretty effect, but, like the type, the plants are rather difficult to keep in health for many years. They abhor a close and heavy compost, thriving best as a rule on a raft or in a shallow basket suspended close to the light in the Cattleya house. The large spikes produced are very trying to the plants if left on until the flowers fade.

Maxillaria tenuifolia.—Small plants of this species, although they do not show the peculiar habit, always produce more richly-coloured flowers. The number produced when the specimens are healthy is enough to make a showy plant, the rich dark red of the flowers showing up well against the deep green of the foliage. When rambling away, the pseudo-bulbs are not so strong, though the semi-pendent habit assumed is pretty. It is an easily-grown specimen in an intermediate house if potted or placed in baskets, with equal parts of peat fibre, loam, and Sphagnum Moss over good drainage.

Odontoglossum Harryanum.—This is very fine this week, a plant having several flowers. The sepals and petals are almost entirely deep chocolate, only a little of the usual green tint showing, and the form is good and well displayed. Although *O. Harryanum* will go on and increase in size annually if well treated, it is a bad plant to bring back to vigour when once shrivelled by drying-off or over-flowering, many fine plants in their first year of blooming having

been ruined. The pots for this species may be of medium size, and the usual compost for *Odontoglossums* suits it. A little more warmth than the cool house affords answers best during the winter.

NOTES ON ORCHIDS.

Now that the days are shortening and the growth of many species approaching completion, it will be necessary to closely watch the shading. The blinds must never be left down a minute longer than is really necessary, and the foliage on many spring-flowering kinds being now hard more sun is admissible. The *Dendrobiums* must be pushed along now, running the houses well up by early closing and drawing the blinds at the same time. The aspect of the house has of course a good deal to do with the time of closing, but with houses running north and south, or nearly so, with shaded ends the safest time now is about 3 o'clock. Where the sun shines on the house later, owing to its aspect, it may be well to wait another half hour or so. The proximity of trees or high buildings will also influence the time of closing, of course. I like to give these plants a thorough washing with the syringe when very hot weather prevails, as the baskets or pans are usually small and do not catch much of the water. Besides this, the roots now can hardly be over-watered in such receptacles, as growth is very active and this makes a great demand upon them. The somewhat difficult *D. Macfarlanei* delights in this treatment, provided always the plants are well established and healthy in pots or pans of limited size. It is with these difficult kinds that the value of good sound peat is so pronounced; it allows of the plants being kept year after year in the same receptacles, the fibre gradually wasting away instead of falling into a soddened mass, annual top-dressings being used to keep the plants going.

In the Cattleya house we have been busy surfacing large old plants of *Laelia purpurata*, the late-flowering specimens being just at the right stage for it. The roots enter the compost more freely now than at any other time of year, and with the above may be classed *L. elegans* and *L. crispa*, also any of the late-flowering Cattleya Mossiae not yet attended to. The old autumn-flowering *C. labiata* is commencing to push up the spikes and must be encouraged by ample moisture, as although the roots are not making great progress on the surface, those below in the compost are active enough. This is one of the most constant Cattleyas in existence and never fails to bloom profusely. *C. Dowiana*, on the other hand, is liable occasionally to miss flowering. The growths with me this season are very free, and there is every prospect of a fine bloom a little later. The sticky exudation from this plant has been very marked this year, and growers should keep this under by sponging if it appears at all likely to hamper the forming growths. Otherwise it does no harm and may remain for the purpose it was evidently intended—i.e., the trapping of any chance insect that may be prowling on the growth. All small-growing plants, such as *Zygopetalums* of sorts, that are growing upon blocks of Tree Fern or dressed wooden ones should be examined now, and where the young pseudo-bulbs are getting away from the roothold they should be pegged or wired down; a little fresh Moss may also occasionally be required. See, too, that they do not suffer from want of moisture, these little attentions making all the difference to plants of a naturally weak constitution. The nearly-related bulbous kinds, such as *Bolleas*, *Pescatoreas* and *Warszewiczellas*, should now be growing freely in a shady, moist part of the house, and here, again, a little adjustment of the compost may be necessary. By no means pull the plants about if they are doing well, but a bit of Moss here or charcoal there may do good where a growth or tuft of growths is loose. Galeandras are thirsty subjects at this time of year, and must not be neglected as regards water. Whenever a house is fumigated or vaporised, these

plants may with advantage be placed therein, they being peculiarly susceptible to the attacks of thrips. There are other kinds, too, that are objects of their attention, including the lovely *Miltonia vexillaria* and *Colax jugosus*.

There is not much doing in the cool house except the ordinary routine work. The majority of the plants are growing, and must naturally be encouraged. *Anguloas* recently repotted will by now be rooting freely into the new material, and as it is important that good pseudo-bulbs be made early, no check must now be given either by lack of moisture or through draughts. Scale puts in its appearance occasionally, and must be kept under by careful sponging. *Bletias*, *Thunias*, and other *Orchids* of this nature that have been put out of doors should not be too rapidly dried, but the foliage allowed to fall gradually and naturally, performing its proper functions to the last and preparing the plants for their winter's rest.

Phalænopsis violacea.—This is a very lovely little Moth Orchid when well grown, the deep violet-purple on the inner side of the lower segment and the front lobe of the lip showing up the somewhat dead tint of the rest of the flower. There is a good deal of variation in the species, some forms having more colour than others, one pretty variety having very little purple about it. It is much more frequently seen and a better grower than most of the *Phalænopsis*s, and succeeds in most places under the conditions usually advised for the genus. It is a native of Sumatra, and first flowered in England in 1878.

Brassavola acaulis.—Though not a showy species, the peculiar habit and flowers of this plant make it worth a place. The leaves are Rush-like, growing in tufts, the flowers appearing at the base of these. The sepals and petals are greenish, the lip pure white, occasionally fringed, as in *Epidendrum ciliare*. The plant cannot be said to be difficult to grow, yet the fact remains that in some collections where *Orchids* as a rule are well done this is a failure. It is not a free-rooting subject, and the roots are easily surfeited by too much moisture, this leading to their decay, the plants in consequence becoming loose and untidy. In order to prevent this, I fastened some plants to rough blocks and wired these down to baskets of suitable size, filling up with crocks and surfacing with clean Sphagnum only. The plants came away well and grew with freedom, flowering every season, and when I left them were fine healthy specimens. It is quite wrong to give them much compost, as the roots cannot obtain a hold of the pots or baskets through it. For the growing season the *Cattleya* house suits the plants, and they may be rested a little cooler when well established.—H. R.

Pachystoma Thomsonianum.—The flowers of this rare and beautiful Orchid appear during this month, and it is a pity it is not more generally known, as it would help to brighten a rather dull season for *Orchids*. The habit is pseudo-bulbous, and the plant is rather a restless one, growing out of season often and keeping to no strict routine. The flowers appear several together on slender scapes and are white in the sepals and petals, the singularly-formed lip being spotted and otherwise marked with purple. They have a very chaste appearance while they are fresh, the deep purple showing up the pure white most beautifully. It is an African species, coming from the mountains of Calabar, and requiring purely tropical treatment all the year

round. The plants like abundance of atmospheric as well as root moisture, and also light dewings over the foliage when the house is closed for the day. The pseudo-bulbs being small and the plants not particularly vigorous, it is best not to give much in the way of compost. On trellised rafts with a little Sphagnum about the roots, or in small well-drained pans, the plants do well, and may be placed in the same temperature and house as the *Dendrobies* while growing. It was introduced in 1878.

FLOWERING CLIMBERS.

IN the springtide of the year many a delightful picture is afforded by hardy flowering climbers, such as the mountain *Clematis* and *Wistaria*. In the accompanying illustration we see a stretch of wall made beautiful by their countless blossoms, especially effective being the brick archway, its sharp outline half veiled by the flower-wreaths of the *Clematis*, through which is seen a distant garden vista, while the blossom-laden sprays have rambed upward among the boughs of an overhanging tree. The two climbers here represented associate charmingly with one another, the lavender pendent

spreads its rich velvet hue over the greenery and tall white Lilies grow at the foot of the pillars, while in the autumn the Virgin's Bower (*Clematis Flammula*) fills the precincts with sweet perfume. There are many other ornamental climbers that may be utilised with good effect, especially in the south-west, where *Solanum jasminoides* grows freely, and will cover a house with its snowy flower-clusters in three or four years. Where it is not liable to be killed or seriously injured by severe frost, there is no more satisfactory climber, as it commences to bloom in May; this year, indeed, it was in flower before the end of April, and blooms throughout the entire summer and autumn, after retaining its blossoms as late as November. Where the *Solanum* is hardy, *Physianthus albens* will also grow vigorously and produce its white flowers in profusion, while *Stauntonia latifolia* and *Clianthus puniceus* may also be planted with satisfactory results. The well-known blue Passion Flower is a quick-growing and decorative climber, and is attractive both during its flowering period and when, later in the year, its golden orange fruits hang like fairy lamps among the dark foliage. It has also the advantage of being practically evergreen,



A wall covered with *Clematis montana* and *Wistaria*.

bloom-clusters of the *Wistaria* being set off to the best advantage by the ivory-white flower-mantle of the mountain *Clematis*. Crude walls and ill-designed structures devoid of interest assume an aspect of beauty when swathed in trailing growth and floral tracery. Strong-growing climbers, such as the two already alluded to, soon attain large proportions and clothe a wide expanse of wall in a comparatively short space of time. It is when allowed unrestricted freedom of growth that the most picturesque effect is obtained, and a *Wistaria* rambling along the coping of an old wall or *Clematis* garlanding the sombre foliage of a Yew with trails of starry blossoms are infinitely more charming than the same plants when subjected to formal training. Balconies and verandahs can be rendered objects of loveliness for many a month by the help of flowering climbers. One I have in my mind where the mountain *Clematis* and *Wistaria* mingle their blossoms and the Banksian Roses bear their sprays of yellow and white flowers. Later on the purple *Clematis* Jackmani, which has threaded its way through the countless growths,

its old foliage being in most cases retained until shortly before the appearance of the young leaves in the spring. S. W. F.

Lantanas.—In the days when specimen plants were popular two or three of the more vigorous forms of *Lantana* were occasionally employed for the purpose, but of late years they have been almost completely overlooked, though a dwarfier and exceedingly free-flowering race has now sprung into existence. This class of *Lantanas* may be employed for various purposes, and they are very useful where a greenhouse or conservatory has to be kept gay at all seasons, as they are of easy culture and keep up a succession of blooms for some time, added to which they are widely dissimilar from most plants so employed, and the great changes in colour that the flowers undergo from the time of expansion until they fade render them additionally interesting. Planted out during the summer months, *Lantanas* will flower well and keep on till the autumn. Their propagation and culture are very simple, as in spring cuttings of the young soft shoots will strike root as readily as a *Fuchsia* if treated in the same way, and they will grow freely in ordi-

nary potting compost. Cuttings put in early in the spring should be potted off as soon as rooted, and directly they take hold of the new soil the tops must be pinched out; then, treated much as the general run of greenhouse flowering plants, they will branch out and grow away freely. Then as the season advances the neat little bushes become thickly studded with flattened flower-clusters, which present a bright and attractive appearance during July and August and well on into the autumn. In growing the Lantanas, too much shading must, of course, be avoided, but the one thing to particularly guard against is red spider, which is very liable to attack the under sides of the leaves, and once it has effected a lodgment thereon is very difficult to eradicate. A good circulation of air as distinguished from direct draught and a liberal use of the syringe will as a rule serve to keep the plants clean. At Kew the Lantanas have for some years formed quite a summer feature in No. 4 greenhouse, but though they are often greatly admired, their culture does not seem to make much headway in gardens. Neat little plants of many varieties that differ widely from each other in the colour of their flowers can be obtained at a cheap rate from several of our nurserymen.—H. P.

ORCHARD AND FRUIT GARDEN.

TREATMENT OF YOUNG VINES.

WITH a view to getting as much as possible out of young Vines the first season, somewhat early closing and scant ventilation are practised during the summer. It is quite advisable, too, and good practice, for though rather shorter-jointed rods may be produced under less hastening conditions, it is a fact that short-jointed canes do not always mean a more regular start than longer ones. But the forcing treatment must not be unduly prolonged, and after the end of July the growth made is not likely to become sufficiently well ripened to remain at the winter's pruning. After this date, then, the aim of the grower must be to ripen up the growth already made, and if the main rods are not shaded or crowded by foliage, a rather free lateral growth is desirable. To suddenly alter the conditions that have obtained during the summer and to throw open the houses at once would do more than anything to defeat the end in view. It is just possible that it may cause a check to growth, and this is not desired, for development depends as much upon the sap being kept moving as upon the admission of sun and air. When the time comes for the Vines to go to rest they will do so, and the more active the sap is at the end of the season the better, the leaves coming off freely in the hand when touched, and the eyes at the base of each swelling up properly. Growth checked by sudden inrushes of cold air will keep green, and the foliage will remain on until midwinter. No one needs to be told which kind of growth is more likely to be satisfactory the first season or to continue longest in proper condition. As in many other phases of gardening, the old saying "the more haste the less speed" is applicable to the ripening of the wood on young Vines. I like to see them grow quickly and produce large leaves, thick tendrils, and big buds at the base of the leaf-stalk. As a means of regulating the flow of sap to the buds individually, the plan of frequently pinching the main rod as it is made is not so much practised as it deserves to be. There is no check to growth in the process, and the difference in length of stopped and unstopped rods is practically none.

The plan I follow is to cut down the young Vines to hard wood in winter, whether this

comes to the level of the wall plate or below it, plant when the Vines have made about 4 inches to 8 inches of growth, and push them on as rapidly as possible. Sometimes a slight check will be noted, especially with Vines not too well rooted, but when the roots catch up to the growth, so to speak, they are soon off again, and after this all is plain sailing, as a rule. When the young growth is about a yard in length, pinch the point out. It must not be cut back, or a swollen joint will result. Just take the very point out of the shoot, and this will be a sufficient check to the sap to help the lower buds to swell. It matters little whether the second or first lateral is now taken on as leader, but I have a slight preference for the upper one. When another yard or thereabout is made, the same stopping is necessary, and this should go on until the Vines have filled their space. A straight, well-furnished rod of even thickness throughout will be the result of this treatment, and during the first season it will easily climb an 18-foot rafter. There is a great difference in rods so made and others given their heads from the first, these, as a rule, being much longer jointed, with a greater difference between the upper and lower portions. As mentioned above, laterals that have been rather closely pinched during the summer may now be allowed to ramble a little, but there is no gain in letting them run wild. A tangled mass of lateral growths, with leaves twisted among each other, is not needed. What is required is enough growth to keep root action vigorous without crowding. By the time the leaves have fallen about November the house should be thrown entirely open and pruning may take place. Some growers practise half-pruning early, but, beyond letting a little light into any plants that may be in the vinery, I fail to see what good it does, especially in the case of young Vines. The longer in reason the foliage remains on these the better the rods develop. If any suspicion of insects exists, the rods should be thoroughly cleaned in winter at the same time that the house is put in order, but the stupid scraping and painting with all kinds of rubbishy nostrums are as unnecessary as they are dirty and unpleasant in practice. Proper cleansing and the application of approved insecticides are, of course, necessary with neglected Vines, but not with young Vines in new or clean houses.

Grape Lady Hutt. I do not know what may be the opinions of other growers regarding this Grape, but the more I become acquainted with it the more favourably impressed am I with it. I find it succeeds admirably in the late vinery with Lady Downe's and other heat-loving varieties, the treatment afforded the latter seeming to suit it exactly. I have but one rod, which, until the present season, did not occupy the best of positions, but owing to its succeeding so well and the appearance and flavour of the Grape being so much appreciated, a rod of another variety was cut away to make further room for it. The Vine has in consequence been much benefited, and will, I hope, carry a full crop another season. This year the crop consists of eight medium-sized bunches, the berries of which are now stoning. The berries grow to a large size, in fact almost as large as those of Gros Colman, and remain in sound condition well into January. The colour is a greenish yellow, but if the foliage is drawn on one side, so that the berries can get the benefit of all the light obtainable, they lose the green tint altogether. I consider it an extremely valuable Grape for January use, and the fact of its being a white variety renders it doubly so, as but few if any Muscats then remain for use. By growing Lady Hutt there is no reason why late white Grapes should not be had in the two first months of the year, if not later,

and although not equal to the Muscats, it is certainly richly flavoured when properly ripened, and therefore deserving of extended cultivation.—A. W.

Strawberries in Hampshire.—The season now closing has been a good one, and as the weather kept fine for picking and marketing, growers have not much to complain of. A fair average crop has been secured. The work of clearing off all the plants that are exhausted, now claims attention, and the land thus set free is at once planted with some kind of winter crop. The preparation of the soil and the planting of new beds need pushing on, for if not got in early there is no chance of a crop the first year, the finest fruits being usually gathered the first year after planting, and the largest crop the second year, and after the third the plants are generally grubbed up. In this locality growers of large quantities have to rely on the railway for transit, and for this reason alone the old well-tried Sir Joseph Paxton still holds foremost place, for although Royal Sovereign is earlier, larger, and of very good appearance, it does not travel like Sir Joseph, and I doubt if any sort yet raised can supersede it, for the conditions under which Strawberries are grown, packed, &c., are so different from those of private gardens, that a variety which is first-class for pot culture or open air if gathered in punnets and hardly touched until laid on the dessert dishes would be practically useless to the market grower who had to send his fruit long journeys by rail. Although many may think that market growers are prejudiced against new things, I can assure them that no class is more alive to the importance of keeping pace with the times by growing anything that is really an improvement on the old. They, however, do not hastily discard old varieties until they are fully assured that they have got something really superior, and that is the only reason why they stick to Sir Joseph Paxton as the main-crop variety.—J. GROOM, Gosport.

MILDEW ON PEACHES.

CAN you tell me why so many of the early Peaches in my orchard house go mouldy? The mould on the Peach starts opposite to the stalk and often before the Peach is ripe. On the sound side the flesh will not leave the stone. The house is not heated and this is an early variety with a good crop on, but quite half were mouldy.—QUEDGELEY.

* * Evidently a case of mildew. This fungus is liable to attack the growth and fruit of some varieties of Peaches and Nectarines more than others, and some positions are more favourable to an outbreak and spread of the disease than are others. In many instances the leaves and points of the shoots are badly crippled by mildew and affected fruit neither swells nor ripens properly. As far as "Quedgeley's" present crop is concerned there is no remedy, but it ought to be possible to prevent future attacks. After the fruits are gathered syringe the tree and then well coat branches, shoots and leaves with flowers of sulphur. Leaves as they fall and all prunings should be removed and burnt. If the tree is not in a satisfactory condition at the roots and it is just possible the border at that particular part may be in a soured condition, take this in hand before the leaves fall in the autumn, removing much of the old soil, relaying the roots after they have been pruned in a fresh loamy compost. Most nurserymen and seedsmen can supply recipes for mildew, or if "Quedgeley" would prefer to prepare a solution for himself the following would answer: Take half a pound each of powdered quicklime and flowers of sulphur, mix these into a paste with water, stir this into half a gallon of water, and boil for half an hour. Allow this solution to cool and settle, and then pour off the clear liquid, storing it in bottles, duly corked, for future use. When using, add a quarter of a pint to three gallons of soft water, and apply through a syringe in the form of a spray. Trees previously affected by mildew ought to be sprayed with the solution of lime and sulphur or other somewhat similar

preparations before active growth commences in the spring, continuing spraying at intervals of a fortnight or so till the foliage is fully developed, ceasing before the fruit is far advanced in growth. Warm evenings are the best time for applying these remedies. A stagnant atmosphere and late and reckless ventilating are frequent causes of mildew attack. While the foliage is tender it should not be exposed to a rush of cold front air, which is apt to bring germs of mildew with it. Up till the end of May it ought to be possible to keep the temperature low enough by opening the top ventilators only, commencing with a chink soon after the sun strikes the house and adding more as the temperature rises, in advance of rather than after a considerable increase of heat. In this way a genial growing atmosphere is maintained and all rushes of cold air avoided.—W. I.

NOTES ON GOOSEBERRIES.

The fruit here is much later than usual, but very fine. From plants trained on an upright trellis and rather long pruned I have been taking splendid fruits of Berry's Early Kent, a variety that is excellent for almost any form of training and soil. It is a wonderful bearer, even in positions not first-rate for its culture, while the flavour when fully ripe is distinctly good. There is a disposition among growers of this useful fruit on trellises or walls to prune too closely, in consequence of which the fruit is none too freely produced, nor is it so fine. There is nothing gained by cutting in closer than about 3 inches, and where the shoots are exceptionally strong they may be left longer than this with advantage. The shoots that come from the lower part of these laterals may be reserved until they have made about 8 inches of growth, then pruned back, keeping the sub-laterals closely pinched afterwards and rubbing some out entirely. Then at the winter pruning there is a choice of plenty of good buds to prune back to. Much of the old wood that has fruited may be taken out in autumn, giving that left the advantage of light and air. For bushes, too, this cutting out of fruiting wood is not sufficiently practised, and instead of a nice open tree, that one may get the hand into without fear of the spines, dense bushes are the outcome, which get larger and thicker annually, and from which it gets increasingly difficult to gather the fruit. Another richly flavoured kind just coming in is the Rough Yellow, an old and well-known sort, very useful for dessert before the large kinds, as a rule, are in. Of these latter, many of large size and good flavour are obtainable, one of the finest and earliest being Keepsake. The fruit of this is smooth, green, with lighter streaks, full of pulp, and with moderately thin skin. Angler is not quite so large, but of good quality, while later excellent kinds in this colour will be found in Telegraph and Thumper, the former especially free-bearing. The grand old Warrington is excellent as a late-keeping red sort, while larger and equally good fruits early in the season may be gathered from Rifleman and Whinham's Industry. These Gooseberries make excellent additions to the best dessert, and yet may be grown by amateur or cottager with the greatest ease.

Suffolk.

H.

Strawberries.—The long-protracted spell of cold, sunless weather in June delayed the ripening of the fruit so much, that what looked like being a very early season was converted into a late one, for whereas in Jubilee year the best of the fruit was gathered in June, it was not until July this year that any fruit was fit for market, at least in the open fields. Not only were the days sunless and nights cold, but the continual rains caused the plants to carry an exceptional heavy crop of foliage as well as a heavy crop of fruit. A good deal of what should have been the finest fruit was spoilt by slugs or rotted on the ground. With the month of July came a sudden and welcome change to brighter and drier weather, and a large quantity of good fruit has

been sent away. The season will probably last considerably longer than during several of the preceding years. As the soil retained the moisture long enough to swell off the late fruits, I have not yet been able to get any correct reports as to how the newer sorts of Strawberries have been standing the test of travelling long distances by rail, but in my own immediate locality the fruiterers still give the preference to Sir Joseph Paxton as the best of all sorts, as the fruit turns out of the boxes or baskets as fresh and firm as if gathered from the plant. Royal Sovereign, although specially fine, did not travel nearly so well, and if kept until the second day was useless. The wet season rendered the fruit very tender and watery, and not nearly so satisfactory as it was from plants grown in pots. Making such large foliage, the plants need double the space between the rows. Royal Sovereign evidently needs a drier season if grown as an open field crop. If gathered in punnets it is grand, fruits each over two ounces being plentiful.—J. Groom, Gosport.

SOCIETIES AND EXHIBITIONS.

NATIONAL CARNATION AND PICOTEE SOCIETY.

CRYSTAL PALACE, JULY 27.

THE original date was a week earlier, but the incidence of the season, and especially the prevalence of a low temperature at nights, had so retarded the development of the flowers, that it was found necessary to postpone for a week the exhibition; but even then the majority of the blooms were far from their best. Still, as is usually the case, there was a good representation of the leading sections, though there was a lack of that fine development which usually accompanies a favourable season. The nave of the Crystal Palace, with the awning overhead tempering the heat, is an ideal place for an exhibition of Carnations, as the flowers are always seen to the best advantage. What blooms were staged were mainly from the southern growers, for the most of those of northern growth were not sufficiently advanced. As far as the Carnations were concerned, the bizzarres and the flakes fell below the average of quality we have been in the habit of seeing at this exhibition, but many of the selfs, the yellow grounds, and fancies were particularly good. The showy self varieties were most attractive, and the class for six blooms of a self Carnation of one variety, which did not find a place in the published schedule, was perhaps one of the most striking features in the whole exhibition, about twenty half-dozens of various colours being staged.

Mr. Martin Rowan, Manor Street, Chelsea, won the first prize for the best twenty-four blooms of flaked and bizarre Carnations, and his success is all the more satisfactory, seeing his flowers are grown so near to the centre of London. Mr. Rowan has been a most successful grower and exhibitor for many years past, but all his triumphs have been won with blooms grown within the area of smoky London. His best scarlet bizzarres were Admiral Curzon and Robert Houlgrave; crimson bizzarres, Master Fred and J. S. Hedderley; pink and purple bizzarres, William Skirving and Sarah Payne; purple flakes, Gordon Lewis and George Melville; scarlet flakes, Constance Graham and Sportsman. Mr. J. Douglas, Great Bookham, was second. There were five stands of twelve blooms, Messrs. Thomson and Co., Sparkhill, Birmingham, taking the first prize here with Robert Houlgrave, Lord Salisbury, Master Fred, Guardsman, Sportsman, Magpie, Gordon Lewis, Vulcan, Mentor and Mrs. May, Mr. F. A. Wellesley being second. There were nine collections of six blooms, and Mr. A. R. Brown, Handsworth, Birmingham, was awarded the first prize, Mr. F. Hooper, Bath, the second, and Mr. Geo. Chaundy, Oxford, the third. Mr. Brown grows his flowers in one of the smokiest parts of a manufacturing district in Bir-

mingham. There were three collections of twenty-four self Carnations, but not necessarily distinct. Here Mr. C. Blick, gardener to Mr. M. R. Smith, Hayes, was first with a collection of brilliant blooms, those of a maroon shade being Sir Bevy's, Friar Tuck, and Sir F. Drake; crimson and scarlet, Mrs. Gray Buchanan and Firebrand; rose, Mrs. A. Norman, Enchantress, Joan of Arc and Exile; yellow, Cecilia, Falcon and Miss Julia Harbord; white and blush, Kelpie, Hildegard, Helmsman, Purity, and Cordelia. Second, Mr. Douglas, whose blooms were very good, but unnamed. Mr. C. Turner was third, his finest blooms being Little John, Sir Guy, Germania, Duchess of Fife, Gold Mine and Rose Unique. There were seven entries for twelve blooms, Messrs. Thomson and Co. taking the first prize with very fine flowers of Her Grace, Exile, Mrs. Eric Hambro', Percy Conquest, Ruby, Germania, &c. Mr. C. Phillips, Bracknell, Berks, was second. There were as many as twenty entries of six varieties, Mr. A. R. Brown taking the first prize with really superb blooms of Royalty, a very fine deep rose self; Mrs. Eric Hambro', Miss Audrey Campbell, Mrs. J. Douglas, Negress, and a seedling. Mr. W. Garton, jun., Woolston, Southampton, was second. Next came the fancies, a fancy Carnation being anything which cannot be classed in any of the foregoing sections or among the Picotees. Here some very fine and striking blooms were staged. In the class for twenty-four fancy Carnations, Mr. M. R. Smith was first with a magnificent collection mainly of new varieties. The most striking were Aglaia, Muleteer, St. Gatien, The Cid, Merry Duchess, Goldilocks, Elaine, Renegade, Maid of Honour, Zingari, Alexandra, Electra, Eothen, Allegra, Fairy Guinevere, Persimmon, Lord-Lieutenant, Don Carlos, and Hidalgo. Mr. C. Turner was second with smaller flowers of excellent quality. Mr. A. J. Rowberry, South Woodford, was first with twelve fancy Carnations, his chief blooms being Cardinal Wolsey, Orestes, Monarch, in two distinct forms, Dervish, &c. Mr. C. Phillips, Bracknell, Berks, was second; his leading flowers were Miss Arkwright, George Cruickshank, Cardinal Wolsey, and seedlings. There were nearly twenty entries for six blooms, Messrs. Thomson and Co. coming to the front with the following in very fine character: Cardinal Wolsey, Voltaire, Golden Eagle, Monarch, Miss M. Hill and Socrates. Mr. J. W. Foulkes, Chester, was second with Voltaire, Cardinal Wolsey, His Honour, and May Queen as his best flowers. An interesting supplemental class was for six self Carnations of one variety, in which there were many entries, the first prize falling to Mr. Martin R. Smith, who had Cecilia, a large pale yellow self; Mr. J. Douglas was second with Mrs. Eric Hambro', a white self; and Mr. C. Phillips third with Regina, also a yellow self. A further supplemental class was provided for six fancies of one variety, Mr. M. R. Smith taking the first prize with Hidalgo; Mr. A. W. Jones, Handsworth, was second with Golden Eagle; and Mr. J. Douglas third with Perseus. There were fifteen entries. Next came the classes for single blooms, in which a considerable number are staged, the judges selecting the best. Of s.b. Carnations the best was Richard Monk, a fine new variety from Mr. R. Sydenham, Robert Houlgrave and Robert Lord following in the order of merit. Master Fred, also from Mr. Sydenham, was the best c.b., J. D. Hextall coming next. That fine p.p.b. William Skirving took all the prizes in this class. The best p.f. was Gordon Lewis, from Mr. M. Rowan, followed by George Melville and Magpie. The best s.f. was John Wormald, a new variety, shown by Mr. Sydenham; Sportsman came next. The leading r.f. was Mentor, from Mr. Brown; Mrs. Rowan following next in order. The best white selfs were Mrs. Eric Hambro', The Bride, and Cristabel; the best rose, Exile, Royalty, and Perfection; the best scarlet, James Douglas, The Cadi, and Lady Hindlip; the best maroon, Uncle Tom, Manxman, and Labby; the best yellows, Miss Audrey Campbell, Miss Wilmot, and Regina; and the

best buff, Mrs. Reynolds-Hole (finely shown by Mr. C. Turner), The Dyak, and Midas. The best fancy was Voltaire, followed by Monarch, Eldorado, and Cardinal Wolsey.

PICOTÉES.

These are always an attractive section, and they were generally better in quality than the bizarre and flaked Carnations. Mr. C. Turner had the best twenty-four, the leading flowers being Brunette, Mary, Clio, Duchess of York, Madame Richter, Favourite, and Mrs. Payne. Mr. J. Douglas was second; he had Ganymede, Cassandra, Mrs. Chancellor, Harry Kenyon, Clara Penson, Nymph, Zerlina, Mrs. Ricardo, Mrs. Beswick, Constance Heron, and Fortrose. Messrs. Thomson and Co. had the best twelve varieties, Mr. F. A. Wellesley was second, and Mr. Weguelin, Teignmouth, third. Mr. A. R. Brown had the best six; Mr. Cartwright was second. The stands of twelve yellow ground Picotees brought some fine blooms, and they are always greatly admired. Mr. M. R. Smith staged a superb dozen, having in the finest character Duchess Lily, Badminton, Hygeia, Lady Bristol, Dinorah, His Excellency, Wanderer, Duke of Alva, Volage, Vampire, Edith, and Fashion. Mr. C. Turner was second; his finest blooms were The Gift, May Queen, Vespasian, Mrs. Douglas, Mrs. Gooden, and Golden Eagle. There were nine stands of six varieties. Mr. G. Chaundy, Oxford, was first, Messrs. Thomson and Co. second. Of single blooms of Picotees there were many. Isabel Lakin was the best heavy red; light red, Mrs. Gorton, Thomas William, and Lena; heavy purple, Medhurst's seedling; light purple, Harry Kenyon and Somerhill; heavy rose, Madeline, Lady Louisa, and Little Phil; light rose, Rosie Sydenham; heavy scarlet, Mrs. Sharp, Duchess of Albany, and Mrs. A. R. Brown; light scarlet, Favourite and Fortrose; yellow ground, Wanderer and Mrs. R. Sydenham. The premier bizarre was s.b. Admiral Curzon, from Mr. Rowan; the premier flake, s.f. Flamingo, from Mr. J. Douglas; the premier self, Cecilia (yellow), from Mr. M. R. Smith; and the premier fancy, Hidalgo, from the same. The premier heavy edged Picotee was Clio (scarlet), from Mr. C. Turner; the premier light edge, Somerhill (purple), from Messrs. Thomson and Co.; the premier yellow ground, Mrs. Douglas, from Mr. C. Turner.

Seven classes were set apart for exhibits of undressed flowers, and they were generally well filled, a large number of blooms being staged. At the luncheon Mr. Martin R. Smith made an appeal to the representatives of the gardening press to give a greater prominence to these classes than they had hitherto done, for, as he stated, they operated as a kind of introduction to the more important competitive classes, and amateur growers were induced to attempt something in the classes in which dressed flowers are admitted. It may be said of these classes that they were all well filled, but with few exceptions the flowers were small and lacking in symmetry. The principal prize-takers were Messrs. F. Hooper, W. Garton, Jun., J. W. Foulkes, S. F. Solley, J. Loredor, E. Charrington, W. L. Walker, S. A. Wendt, and H. Lloyd. Some of the flowers were unnamed.

There were classes for plants in pots. The only group, filling a space of 50 feet, came from Mr. M. R. Smith, and it contained some very fine new varieties, such as Helmsman, white; Her Grace, blush; Zelia, white; Triumph, crimson; Quentin Durward, pale scarlet; Godefroy, soft scarlet, with some yellow grounds. The best group of 30 square feet came from Mr. J. Douglas. He had some very good varieties, also selfs and yellow grounds. Mr. E. Charrington was second. Mr. M. R. Smith had the best twelve specimens in pots, and Mr. J. Douglas was second. They were all well-grown and bloomed plants. The best single specimen was Golden Eagle, from Mr. M. R. Smith. Mr. Douglas was second with Saul, a yellow self.

Floral decorations with Carnations comprised a dinner-table, the first prize going to Mr. H. Rogers, Woodbridge, who employed sma-

blooms of pink Carnations on a centre and two sidepieces arranged with appropriate foliage. The Morters' Stores, Ltd., Norwood, was second with a heavier arrangement. They had pink and crimson Carnations, with appropriate foliage. There were also classes for ladies' sprays and button-holes. Many were staged, but it cannot be said they taught anything new or novel in this way. The Martin Smith special prizes for Carnations from the open border brought, as is usual, a good competition. The best bunch of a self-coloured variety was Jim Smyth, from Mr. H. G. Smyth, Bloomsbury, a brilliant scarlet of fine quality. Mr. Collins, Woodbridge, came second with Miss A. Campbell, yellow self, and Mr. E. C. Goble third with Duchess of Fife, soft pink. Mr. J. Euston, gardener to Mrs. Whitbourn, Great Gearies, was first with six bunches of self-coloured Carnations, staging very good varieties, but unnamed. Mr. E. C. Goble was second and Mr. H. W. Weguelin third. With nine bunches of flaked bizarres or fancy Carnations Mr. Weguelin was placed first, Mr. Euston second, and Mr. W. L. Walker third, all unnamed.

SEEDLINGS.

A large number of new varieties were staged and certificates of merit were awarded to the following from Mr. Martin R. Smith: Cecilia, yellow self; Goldilocks, Enchantress, salmon-scarlet self; Grand Duke, scarlet self; Benbow, apricot self; Edith, y.g. Picotee; Etna, bright scarlet self; Lady Bristol, and a dark crimson-maroon self named Lady Frances Scott, from Mr. E. Charrington.

On this occasion there was but little of a miscellaneous character in addition to the show. Mr. H. Eckford, Wem, Salop, staged fifty varieties of Sweet Peas, prominent among them the new varieties of the present year, Duke of Westminster, Fascination, Othello, Mrs. Dugdale, and the Hon. P. Bouverie being particularly fine. Messrs. W. Cutbush and Son, Highgate Nurseries, had an effective stand of bunches of cut flowers, Malmaison and other Carnations, Sweet Peas, &c., and Mr. J. Douglas had a table of cut blooms of his new and other choice varieties.

Royal Horticultural Society.—The next meeting of the society will be held in the Drill Hall on Tuesday, August 9. The committees will meet at noon, and at 3 p. m. a paper on "Water Lilies" will be given by Mons. Latour Marliac.

BOOKS.

WHERE WILD BIRDS SING.*

The author wrote this little book in the desire to encourage the study of Nature, which is too much neglected or wrongly imparted in the training of the young. He has been a close observer himself all his life. He writes mainly about birds, but few things seem to have escaped his notice in insect, animal, leaf and blossom. The book seems well calculated to fulfil its object in inviting to the systematic observation of natural things. A chapter is devoted to each month of the year, and this seems the most natural way. Some of the things recorded are, of course, of common knowledge, but bear repeating, and there is much that is new to the ordinary observer, and nothing that is not interesting.

The weather in West Herts.—A warm week, the highest day temperatures in shade ranging between 70° and 77°. The night preceding the 26th proved an exceptionally warm one, the thermometer exposed on the lawn only falling to 58°, which with two exceptions (1893 and 1895) is the highest minimum reading registered by this thermometer in any part of the year

* "Where Wild Birds Sing." By James E. Whitling. Sydney C. Mayle, Publisher, Hampstead, N.W.

during the past thirteen years. In contrast to this high night temperature it may be stated that on two previous nights during the week the same thermometer fell to within 7° of the freezing point. At 2 feet and 1 foot deep the ground is at the present time respectively 2° and 4° warmer than is seasonable. Rain fell on three days during the week, but only to the aggregate depth of about a tenth of an inch. Indeed, so dry has the soil become, that no rain water whatever has come through either percolation gauge for nearly a fortnight. On the 24th the sun shone brightly for 13½ hours.—E. M., Berkhamsted, July 28.

—A week of changeable weather as regards temperature. For instance, on the 29th ult., the highest reading in shade was only 56°, while on two other days it reached 78°. Several of the nights were very cold for the time of year, and on that preceding the 31st the exposed thermometer showed a reading only 3° above the freezing point. There occurred a great range between the lowest night and highest day temperatures, the difference on two occasions being over 30°. At 2 feet deep the ground is now about 2°, and at 1 foot deep about 3°, above the average. Rain fell on but two days during the week, the total depth amounting to less than a quarter of an inch. On the 31st the sun shone brightly for 13½ hours, but the record for the 28th and 29th taken together was less than half an hour. During July the days were, as a rule, warm, while the nights, on the other hand, were usually cold. Indeed, on eight of them the thermometer exposed on the lawn registered readings from within 7° to 3° of the freezing point. Rain fell on but seven days, and to the total depth of less than three-quarters of an inch, or about one-fourth the average quantity for the month. It was not, however, quite as dry as the same month last year. Taking June and July together, the rainfall at Berkhamsted was, with the exception of 1868 and 1887, smaller than in the same two months for over forty years. The sun shone on an average for about one hour a day longer than in an average July.—E. M., Berkhamsted.

NOTES OF THE WEEK.

Carnation Princess Charles of Denmark.

—Among the border kinds this is an excellent white self of capital constitution and free flowering. As a comparatively dwarf kind also this is worthy of note, while the petal is of good substance and fine in form.

Silene alpestris is now carpeted with its snow-white blossoms that produce so pretty an effect in the garden in its broad, spreading patches. It is one of the most freely flowered of the evergreen alpine class, and as such quite content in ordinary garden soil.

Sidalcea malvæflora Listeri.—The deeply-notched pink flowers of this plant render it most attractive in the border, where it is now in bloom. An easily-grown plant, of neat habit and producing its elegant blossoms freely are among the points that make it worth a place in collections of hardy things.

Pentstemon heterophyllus.—This is one of the neatest as it is the showiest of the dwarf Pentstemons; a plant, however, that would appear to delight in very warm and sandy soils. Quite dwarf bushes of it are now loaded with a profusion of lilac-blue flowers, and there is also a sort of metallic rose tint that renders this a very beautiful kind.

Linum arboreum is one of the prettiest of the hardy species, covered for a long time during summer with bright yellow cup-shaped blossoms on a neat, sub-shrubby, compact-growing bush. It is a good border plant, and even better in the rock garden where more efficient drainage is usually at hand. Being so easily raised from seed, it may be grown quite freely with little cost.

The Burgundy Rose.—The pretty little Rosa burgundica has been very pleasing here this summer. The season has been rather a trouble-

some one for some Roses on this dry soil, but the watering necessary to keep some of the alpines alive has suited the Burgundy Rose, which has delighted me with a considerable number of its neat double flowers. Many of these dwarf Roses are very interesting.—S. ARNOTT, *Rosedene, Carsethorn, by Dumfries, N.B.*

Patrinia rupestris.—Under this name there are two plants said to be grown, one being *P. intermedia* and the other *P. sibirica*. I must confess to being unaware which of these is the name of *P. rupestris* occasionally seen and seldom attractive. At Kirkconnel there is a good specimen which surpasses those usually found in gardens, and is rather a favourite from the profusion of small white flowers it produces. These are found useful for cutting.—S. ARNOTT.

Heuchera sanguinea grandiflora.—The striking beauty of this plant was again exemplified by some sprays in Messrs. Barr's group at the recent meeting of the Royal Horticultural Society. Taller in growth apparently than the original kind, it is equally free flowering, and what is of more importance still is the exceeding brilliancy of the flowers. These are so rich in colour as to leave the original a long way behind. It is to be hoped so marked an improvement will soon become plentiful.

Anemone japonica alba.—The earliest days of August, or in reality the first day of the month, saw the opening of the first flower of the above useful border plant. From the present time to the end of October this plant will yield an unceasing supply of the pure white and much-prized blossoms. Such profuse flowering in the best perennials is indeed a gain, the more so when in one species we have a trio of useful and beautiful subjects, this group of Japan Wind-flowers alone giving three distinct shades of colour.

Carnation Mephisto.—It is impossible when viewing border Carnations to refrain from comparing the different habits of the plants. Too frequently the general view is lost by noting a flower of more than ordinary size, beyond which, perhaps, there is little either of form or colouring to recommend it. In the above variety not only is there a decided colour, but good form with great freedom. More than this, the perfectly erect habit of the variety assists materially in the display, as every flower is thus seen to advantage.

Romneya Coulteri.—The lovely pure white satiny blossoms of this handsome plant are ever welcome, as few things are so strikingly beautiful and so chaste; indeed, the large blossoms are among the most exquisite of those of flowering plants, so delicate is the glistening purity of the large-petalled blooms of this fine Poppywort. A fine flowering group of this Californian plant would be difficult to excel, and in those favoured localities where the hardness of the plant is assured, nothing can surpass it in stately beauty. Some lovely plants in bloom were brought to the Drill Hall a week ago by the Messrs. Barr and Sons.

Campanula lactiflora.—One of the most showy of the taller border Campanulas is that grown and sold under the above name. Judging by the term itself, the plant should possess flowers of a creamy white, and such a plant, possessed also of the fine free-flowering habit as the one now referred to, would make a good display in the border at this time. The plant usually sold as the typical species is, in truth, *Campanula lactiflora cerulea*, one of the most freely branched of all the Bellflowers. Usually it is 4 feet high or so, and when given room for development, an extremely showy subject. This is also known as *C. celtidifolia*.

The scarlet Turk's-cap Lily (*Lilium chalcidionum*) is one of the showiest of all garden Lilies. The exceeding brilliancy of the flowers, which are of an intense glistening scarlet or vermilion shade, surpasses almost all others in this respect. In strong and rather clayey loam, freely intermingled with a marly gravel from the magnesian limestone formation, this fine Lily

proved most successful, being stronger and more vigorous than in any peaty bed, or with mixtures of loam and peat, which are frequently recommended for it. When well grown the plant is fairly robust, and will produce as many as eight and sometimes more of its richly-coloured flowers.

Fuchsias at Chelsea.—A very gay and pretty sight at the present time is largely composed of Fuchsias in one of the greenhouses at Messrs. Veitch's nursery at Chelsea. The plants are grown in large pots, and, with no stopping of any kind, are allowed to run up for several feet. A couple of these Fuchsias placed one on either side of one of the principal rafters and trained to the ridge throughout the entire length of the house make a very pleasing arrangement now that the plants are in full bloom. There is no arrangement as to varieties, a pair of plants of equal size being placed together, and in the mixture of colour they show well the value of Fuchsias for such a purpose.

Fritillaria acmopetala in fruit.—This Fritillary is a favourite here, where it does well in the sandy peaty soil of one of the borders. It does not appear to be generally known that it is at this season attractive because of its seed-pods. These are of what may be called an elongated pear shape and are each nearly 2 inches in length. The colouring is now pretty, being ivory-white, with green ribs and a green top. The beauty of many plants such as this when in fruit is not always observed, and those fond of their gardens frequently lose much of their interest by removing the seed-pods from their flowers when they have gone out of bloom.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Bupththalmum speciosum (syn., *Telekia speciosa*).—As seen in a border among other plants this *Bupththalmum* is not particularly attractive. In such a position it looks coarse. In the wild garden, or, better still, isolated on the grass, one finds it present a different appearance. Planted on grass in good soil and allowed to develop into a large size the showy *Bupththalmum* is very effective, and I was much pleased with it as seen thus in the beautiful and picturesque garden of Mr. J. Rowley Orr at Leddriegreen, in the Blane Valley, Stirlingshire. Of the many plants I have seen this was the finest, its handsome leaves looking well when seen with the grass around.—S. ARNOTT.

Double-flowered Ivy-leaved Pelargonium Achievement.—This was exhibited at the last meeting of the Royal Horticultural Society, and well merited the award of merit which the floral committee gave it. Mr. H. J. Jones, of Lewisham, says the plant is the result of a cross between the well-known Ivy-leaved Pelargonium Souvenir de Charles Turner and a pure white zonal Pelargonium. The plants are of sturdy growth, the habit being quite characteristic of a zonal, while the foliage has a pleasing combination of the two parents. The blossoms are large, of a pleasing shade of salmon-pink. This is quite a distinct type of Pelargonium, and is evidently novel and pleasing.—C. A. H.

Escallonia philippiana in Scotland.—Sometimes the preconceived ideas of the tenderness of plants receive a shock on seeing them in apparently rude health where little expected. I was surprised the other day to see *Escallonia philippiana* doing well at the edge of the wood beside the garden of Captain Stewart, of Shambellie, Newabbey, N.B. The shrub was grown as a bush, while even on a wall I should not have expected to see it hardy in this locality. It is very fine on walls in the neighbourhood of Dublin, but some correspondent from the north of England or the east of Scotland would oblige by stating if hardy there. In the south-west of Scotland we can grow many plants which fail in the east.—S. ARNOTT.

Notes from Shropshire.—It may be of interest to know that *Crinodendron Hookeri*, of which mention has been lately made in THE GARDEN, has flowered well this summer in the garden here, as also *Abutilon vitifolium*, both

white and mauve. There is in flower at present a large bush of *Buddleia variabilis* with racemes $1\frac{1}{2}$ feet long, also *Carpenteria californica* and *Fremontia californica*. *Buddleia Colvillei* has stood several winters, but has never flowered. *Magnolia Watsoni* seems quite hardy. *Tropæolum speciosum* is a troublesome weed here, though the soil is dry and sandy. I believe the best way of establishing it is to plant it in spring when beginning to grow.—T. M. BULKELEY-OWEN, *Tedsmore Hall, Oswestry*.

Cytisus scoparius Andreanus in Ireland.—Few plants have made their way into gardens more quickly than Andre's Crimson Broom. It is, indeed, a question if it is not becoming too common, seeing that we have so many beautiful Brooms not nearly enough grown. It is unfortunate, too, that some raisers, anxious to secure and dispose of a large stock, have raised and sent out seedling plants varying more or less from the original and less brilliantly coloured than it. The deep, rich, velvety crimson and gold are wanting in some of these. In going among gardens one meets with many fine specimens, but the finest I have yet seen is in the Daisy Hill Nursery, Newry, where Mr. Smith has a magnificent bush—or tree, as I might well call it—12 feet high and 8 feet through. It has, moreover, the additional beauty of being branched to the ground. In some places a specimen such as this would be considered unprofitable, as taking up too much space, but there can be no two opinions as to the magnificence of such a plant in full bloom, as it was when I saw it. It would be interesting to know if there is a finer specimen in the United Kingdom.—S. ARNOTT.

PUBLIC GARDENS.

Bishop's Park, Fulham.—The Parks and Open Spaces Committee recommended, and it was agreed, that the Council do approve the estimate submitted by the Finance Committee, and do agree to increase by £5000 its promised contribution of £7500 towards the extension and completion of Bishop's Park, Fulham, in accordance with the plans submitted by the Vestry, such further contribution making with the sum of £5000 already paid to the Vestry a contribution of £17,500 towards the entire estimated cost of acquiring and laying out the park, viz., £35,245.

Sparrows.—Can any reader tell me how to get rid of sparrows? Their noisy chirrups disturb me from early morn to dewy eve.—A. R.

Ants.—I am much troubled with ants, destroying Carnations by biting off the petals just at the point of junction with the calyx; the ground below is covered with the shed petals. How can I destroy the nests without hurting the plants? Of course, in such a case the ordinary remedies, turpentine, &c., are not admissible. I am putting cotton-wool, loosely pulled out, round the stems, to make, if possible, an impassable barrier. So far it seems a success.—J. R. NEVE, *Campden, Glouc.*

Covering a galvanised building.—Could you kindly inform me what would be the best evergreen plants, quick growers, flowering if possible, for me to plant against the walls of a corrugated iron building which I have in my garden? The aspect is south and south-west, but parts of the walls are shaded, part in full sunlight. I am anxious to get the whole building covered as quickly as possible.—B. C.

* * We should think the most vigorous of the Ivies would suit you. We should advise you to erect a high trellis round the building and paint it a dark stone colour, or better remove the building out of sight.—ED.

Names of plants.—*D. M.*—*Poterium alpinum.*—*Henry Boyle.*—The cut-leaved Lime.—*C. L.*—*Ozothamnus rosmarinifolius.*—*J. Lawlaw.*—Kindly send flowers.—*A. C. Bartholomew.*—The Flowering Ash (*Fraxinus Ornus*).—*Alice Wilson.*—*Begonia Worthiana.*—*J. Crook.*—Too shrivelled to identify.—*H. S. L.*—*Althæa ficifolia.*

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TREES AND SHRUBS.

SOME SHRUB NOTES.

TO THE EDITOR OF THE GARDEN.

SIR,—The number of THE GARDEN for July 30 has come into my hands at this place with other things from England, and I have time for studying it here. There are several things noticed in it which have been of interest to me of late, and I will venture to say a few words about them. I agree with all that "D. T. F." has written about

OZOTHAMNUS ROSMARINIFOLIUS. I must add, from an experience of many years, that this delightful shrub is of very doubtful hardiness indeed. I believe it comes from New Holland, and, like so many other things from that part of the world, when once it gives way at all there is sure to be an end of it. It cannot—at least I have found it to be so—be coaxed back again by any persuasions into vigour and life. I think it must be five-and-twenty years or more since I first came across this very striking plant in the gardens at Glasnevin. Dr. Moore at any rate was alive, and a most pleasant visit still lives in my memory. But of all which I then saw for the first time or otherwise, Ozothamnus rosmarinifolius has even now the foremost place in my mind. I well remember coming across it quite unexpectedly, and I thought I had never seen anything before in the way of shrubs so entirely out of the common; it looked all over as if there had been a deep fall of snow and we had winter in summer. The specimen at Glasnevin was, as I seem to remember, of quite a large size, and no one could have passed along that garden walk on that early summer day without being greatly attracted by it. I wonder if this particular shrub still lives, for if it is alive, Ireland must score largely over the Isle of Wight, for my experience with it has been one of failure and success in strange alternation. Of course it was not very long after the acquaintance I made with it in Ireland before Ozothamnus rosmari-

nifolius was doing well in my garden, and this went on, I think, for several years. I remember its being an object of great attraction at a garden party I had in Ryde twelve or fifteen years ago, and "snow in summer" was the expression which rose from the lips of most persons who passed through my gates. But the glory was only the prelude to a fall, and my shrub, which had become at that time of very good size, was cut off in the winter that followed—and so also was its successor soon after—and for several years I had more or less of difficulty in getting on with it at all. Last summer I fondly hoped that this great favourite of mine was going to put up with me once again, but I was greatly deceived in the idea. It came to grief in the early spring, and soon passed away. I attribute this entirely to a most unlooked-for cause, viz., the severe and unusual drought which prevailed in the Isle of Wight all through last winter. I never should have thought of watering during January and February, but this, I think, ought to have been done in some cases at least, and I have had to pay the penalty for my neglect. I can think of nothing else besides the drought which made last winter so expensive to me in several instances. The rainfall in January last was little less than the rainfall in June. We must learn by experience, though it is sometimes very costly indeed. But as your correspondent "D. T. F." has said, Ozothamnus rosmarinifolius has one very great point in its favour: it is very easily increased by cuttings; and as soon as I perceived in the spring that my shrub was in a moribund condition, I made cuttings of some of the tips of the branches, and I think every one of them struck. When I left home about seven or eight weeks ago they had all been transferred to small pots in the greenhouse, and were doing surprisingly well considering the short time they had been rooted. After a sufficient interval for growth has been passed, I hope to see Ozothamnus rosmarinifolius once more in my borders, but I dare not expect that it will be a very lasting

success. It is difficult to protect it from frost, for I do not think it likes at all to be much covered up, and it would seem also that drought must be guarded against at all seasons of the year.

ROSA GIGANTEA does not move so quickly as "S. W. F." desires. It is, nevertheless, doing well in many gardens in England. Mr. Bartholomew had a specimen of very fair size and which was putting forth strong shoots when I last visited his garden at Reading, and I have one which was kindly given to me at Kew some time ago, and which is fast growing into size, but I am unable to report that it has blossomed. Nevertheless, I have good hope that it will do so. Very often indeed these things need time, and sometimes long time, before they reward us for our pains, but when once they begin to show themselves forth they do not fail us again. The late Major Gaisford was once taking me over his well-furnished garden when we came to a beautiful shrub which was in blossom, and in which he took the greatest delight. Unfortunately, I cannot now recall its name to my mind, and I have nothing here to refer to. He told me a great deal about it, how long he had grown it, &c., and he seemed to think that it spoke volumes for the climate of Wokingham that it had done so well, and so I thought too, but it told quite as much for the salubrity of the Isle of Wight and a great deal more for my stupid impatience, for that very shrub I had kept in my garden for several long years until then, and I had only just cut it down and thrown it away because I despaired of its flowering. Perhaps the very next year it might have burst forth in all its glory, and at any rate I learnt a lesson there which I have never forgotten—a good many shrubs and trees must attain to some age before they blossom. Rosa gigantea is safe from all molestation in my hands, and every year that it lives and does nothing I hope will be the last year before its glory commences.

ABUTILON VITIFOLIUM of both colours deserves all the praise that Mr. Arnott has given

it. I have never yet lost it at all, but I have been two or three times informed that it is essentially short-lived, and that young plants should be grown on from seed, so as to take the place of those which will naturally pass away.

CRINODENDRON HOOKERI, I find, can be propagated with the greatest possible ease. It is esteemed to be very handsome, and it certainly can be grown quite well in the south of England with a slight protection in winter.

MAGNOLIA WATSONI AND *M. PARVIFLORA* do well with me against a wall in a very dry spot, though I can quite understand how they would like to have more moisture supplied.

TROPEOLUM SPECIOSUM, according to my experience, exists in a dry place, and now and then it has a blossom or two just to show what would happen if it had things more to its mind; but I very much doubt if in the total absence of wet it is ever seen to great advantage, and if anyone could under such circumstances arrive at a proper conclusion about its extraordinary brightness and profusion of colour. Mr. Arnott should, perhaps, call to mind the fact that Scotland is so often bathed in mist, and I hope I am not maligning it if I say that *Tropeolum speciosum* is generally happy there, because if it misses moisture in one way, viz., in a dry soil, it gets it in another way, viz., from the atmospheric influences which abound in that country. But even in Scotland cultivators tell me that this *Tropeolum* is an essentially moisture-loving plant. Mr. Osgood Mackenzie was the other day so good as to send me from Inverness-shire a large supply of it, and he put a word in his letter to this effect, "Let it have plenty of water," so that although I have grown it for years, and in my ignorance have been more or less satisfied with it, I am in hopes now that quite a new start is being entered on in my garden with regard to this matter. This is not all that I have to say about it, and I came across a very striking discovery only last year. I went to pay a visit to a splendid garden where I saw much and learnt much in several different ways, and, not to mention other things just now, I was electrified at seeing *Tropeolum speciosum* covering a large part of the north front of the mansion and blossoming everywhere. Its vivid red colour, its captivating fruit, and the delightful green of the foliage formed a picture which at an interval of about a year is quite fresh in my mind. If I had supposed up to that time that I could grow *Tropeolum speciosum*, and that I knew what it was like, I came to a very different conclusion upon the spot. Of course I was not long in inquiring about the mystery, and my host was very good in satisfying my desire for information. I felt certain at once that there must be moisture somewhere, and also that there must be something more than moisture to account for the splendid picture before me, and this proved to be the case. *Tropeolum speciosum* revels in a highly-manured soil, and when it gets that, it immediately goes to work to show what it can do; it responds to it at once when it has a good larder to feed upon, and the difference between some highly-fed plants and those that are poverty-stricken can hardly be exaggerated. When my lesson was learnt I determined to act upon it, and in three spots in my garden which are facing the north I had the soil excavated to some depth. The sides and the bottoms were lined with thick clay so as to make them retentive of moisture, and then the borders were filled up with a compost of good fibrous loam and plenty of well-rotted manure, so that richness might be ensured. I left England too soon to gauge the difference in the results but even then *Tropeolum speciosum* was coming

up vigorous and strong, and I have no doubt about its future at all. I am quite of "H. R.'s" opinion about

STRAWBERRY LATEST OF ALL. It certainly is of very great use and of the richest and most exquisite flavour, and it does well in the Isle of Wight.

In thus running through your impression of July 30, I hope I shall not seem to have indulged in the spirit of controversy. With the very slightest exception my letter has rather been in the way of corroborating what has been said by others. *THE GARDEN* of July 30 served to interest me in several ways, and in a place of this sort—delightful though it be—when the last page of "The Last of the Barons" has been nearly turned over—and one cannot read for ever—and when the rain is coming down in sheets, so as to keep one indoors, the "cacoethes scribendi" asserts itself in a rather formidable degree, and you will be the judge whether the results of it lead to anything or not, and whether in horticultural affairs out of the mouth of more counsellors than one wisdom is to be found. HENRY EWBANK.

Adelboden, Canton Berne, Switzerland.

WILLOWS FOR THEIR BEAUTY.

NOTWITHSTANDING the number of trees in the country, we doubt if there is a more picturesque or beautiful one than the Babylonian Willow, which is not common in many districts about London, although it is by the river and in the eastern counties. There are many, however, who plant this who do not care for handsome Willows of erect habit, but, as we think, with more beauty of colour, such as the scarlet-barked or cardinal Willow and the old yellow Willow, now thought to be a variety of the white Willow, and in any case a hardy and beautiful tree. Of late years a number of other Weeping Willows have been propagated in Germany and elsewhere, so that we are no longer confined to the old Weeping Willow, which occasionally was apt to be cut down in hard winters, being, probably, a native of a warmer country than ours. The variety of this Babylonian Willow with the crisp leaf is distinct, but more curious than precious.

SALIX BLANDA.—Among Willows which we have tried, in addition to the Weeping Willow, the most important is *S. blanda*, which we had from Germany. It is a vigorous and fine Weeping Willow, though not yet old enough to show its true habit in our country. It is clearly a fine grower, however, and as it has been tried in the cold parts of Germany, there can be no doubt as to its hardiness.

THE YELLOW WEEPING WILLOW.—Equally important and also of undoubted hardiness is the weeping variety of the old yellow Osier, a common tree throughout the country, and the weeping form of it is likely to be a more important tree than the old Weeping Willow. It grows rapidly with us.

SALIX SALOMONI.—This also, as we have tried it, seems to be a free-growing and most graceful Willow, but, with us, not old enough to show its true form. It is supposed to be a hybrid between the white Willow of Europe and the Babylonian, and is a very rapid-growing tree, as, indeed, most Willows are in river-bank soils.

THE KILMARNOCK WILLOW.—This is a variety of the common Goat Willow, or withy, of our woods, and, like it, is an attractive tree in spring. It is usually grafted, but in this case grafted on its own wild parent, so that the contest between stock and scion, that takes place among grafted Willows, does not occur in it. Half the Willows we have planted have been lost owing to the habit

of grafting curious kinds, wholly different in aspect and habit from the common stock on which they are grafted, generally perishing a year or two after planting.

S. ELEGANTISSIMA.—This is another Willow which has a certain claim to be called a rapid growing, tall, and handsome weeper. Willows have a curious way of crossing and intercrossing, hybridising themselves in all sorts of ways, and it is difficult to account for the origin of this; but from a garden point of view this is not of much consequence.

THE AMERICAN WEEPING WILLOW.—This should really be called the purple Weeping Willow, because it is a European kind, and one of the most graceful. It is not very tall, but has pretty grey slender leaves, with long flexible twigs. It is usually grafted on something else, and grown as a single, umbrella-headed tree, although it is much prettier grouped or massed beside the water. It is only then that one gets an expression of its extreme grace, which makes it as precious as any Bamboo. In our case this Willow was grafted on the common Osier—a very coarse growing Willow of which the shoots spring up for ever from below the graft. If let alone for a year or two they would soon make an end of the purple Willow; but by continually removing them we keep the tree pretty healthy. There would not be much trouble in getting the Willow on its own roots and making it form its own stem. Certain dwarf Willows are also grafted, such as the silvery form of *repens*; but grafted, as they generally are, on the coarse Willows, their lives are very short.—*Field*.

POPULUS ANGULATA (AIT.) VAR. CORDATA.

How is it that this fine tree is so seldom met with in parks and gardens? Is it because of the false names under which it figures in the nurseryman's catalogue? *P. angulata* var. *cordata* is without doubt a form of *P. angulata*, as see also M. Alfred Wesmael in his interesting monograph on the Poplars. The variety differs from *P. angulata* in the leaf ribs, which are generally green, whilst those of *P. angulata* are red, but especially in its great hardiness. *P. angulata*, on the other hand, owing to its susceptibility to hard frosts, especially when young, is in no way suited for cold climates, and is little cultivated for that very reason. Its variety *P. angulata cordata*, on the contrary, will stand the severest cold, and was untouched by the terrible winter of 1879-80. It may therefore be very advantageously substituted for *P. angulata* in countries that are too cold for the latter. In the collection of trees in the establishment of Simon-Louis Frères at Plantières-les-Metz there is a *P. angulata cordata* which is presumed to be about sixty years old. The dimensions of this tree are as follows: Height, about 65 feet; circumference a little above 3 feet from the ground, 6 feet; close to the ground, 9 feet 10 inches. The tree is a female and remarkable for the large quantity of cotton surrounding the seed. I have never observed so much cotton in any other Poplar, and when it falls it is like a carpet of snow on the ground. I cannot recommend too highly this excellent variety, which I consider one of the finest of its race. Like its congeners, *P. angulata cordata* prefers a cool and moist soil. It has produced a sub-variety called *P. angulata cordata robusta*, which Simon-Louis Frères intend to bring out this year. It differs from the parent variety in its extremely quick growth. This sub-variety is the most vigorous of Poplars I know, remarkable, too, for the size of its leaves. It appears to me to be a hybrid between *P. angulata cordata* and *P. Eugenei*, the latter a very quick growing Poplar, presumably a hybrid between *P. monilifera* (Ait.)

and *P. fastigiata* (Desf.), which was raised by Simon-Louis Frères, who possess a specimen of it about sixty-four years old.—M. JOURN, in *Le Jardin*.

NOTES & QUESTIONS.—TREES & SHRUBS.

Syringa macrostachya. This new Lilac was exhibited at Paris by Messrs. Croux and Fils, of Clutenay, on May 12 last, and was awarded a first-class certificate. According to the *Journal of the Société Nationale d'Horticulture de France*, it is a very distinct variety, remarkable for its large trusses and highly-scented flowers; the flowers large, with ample divisions, flesh-coloured in the early bud, of a bright lilac-rose colour at the time of opening, and afterwards white, very slightly tinged with lilac.

Laurustinus in Cheshire.—There is a very great difference in the growth of the *Laurustinus* in Yorkshire and Cheshire, so much so that one can scarcely believe it to be the same shrub. In Yorkshire, towards the east coast, the plants only attain a height of something like 4 feet, whereas in Cheshire, in the neighbourhood of Broxton, specimens 12 feet or 14 feet high and as much through are met with. At Bolesworth Castle there are some grand bushes. The soil, formed from the red sandstone rocks of this district, seems to be the medium most favourable to the growth of *Laurustinus*, for not only do the plants grow to a large size, but the annual shoots are long, strong, and the foliage and flowers of exceptional substance. When in flower in the early months of the year these plants are a mass of white waxy blossoms, and attractive features on the lawn and in the shrubbery. The plants, too, are not only objects of beauty in and out of flower out of doors, as their dark green foliage contrasts with that of the Laurel, Rhododendron, and other subjects of a paler green hue, but the flowers are most useful for house work. Being sweet-scented and possessing lasting qualities in a cut state, the *Laurustinus* is valuable for indoor decoration, and when the vigour can be got in them like that in those in Cheshire, large branches literally covered with blossom are available. The season of the year that this well-known shrub flowers—February and March—is another item in its favour, for flowers of any kind are not too plentiful then. The *Laurustinus* being an early-flowering shrub, planters should select a sheltered spot for it—one where the plants will be protected from the north and east winds. Given this and a sandy fertile loam well drained, healthy growth should obtain, and a useful supply of white flowers be secured during February, March, and April.—J. RIDDELL.

A QUIET CORNER.

THE Willows are swaying in the soft south wind and the Bamboos yield to the summer breeze, but there is a quiet corner where every leaf is still and every flower at rest. It is a little pool, where the overflow from the larger pond finds exit. Its surface is unruffled, for the water, though moving onward, has a motion so gentle as to be unapparent. Here, in perfect peace, float the white cups of the water *Ranunculus* glistening in the sunshine.

But what is this ruby light among them? A few stepping stones lead across to the bank on the other side, and here the crimson *Mimulus* has taken root, and, creeping out into the deeper water, mingles with the *Ranunculus*, and lifts erect its succulent stems with gleaming blossoms from the expanse of pure white flowers beneath, its foliage darkly brown, like the shadowed water over which it rests. An *Arum Lily*, too, is nestling by the stones, affording only a stray bloom, but growing freely from year to year with its tall and exquisitely curved leafage. Around the verge, with their rootlets well within reach of the water, the purple *Funkias* are in bloom and the *Iris Kämpferi* send up its spear-like foliage and flower-spikes surmounted by expanded blossoms like huge butter-

flies at rest. Softly bending over this little pool, which we call Giotto, because it is so small and round, are the long wands of the Japan Knotweed (*Polygonum sachalinense*). It, too, with its roots in the moisture, has fulfilment of desire and is of commanding growth, and though not yet in flower, its stems have reached some 15 feet in length.

Little wonder if this quiet corner draws us near in the morning sparkle, when the blue sky shows between the silvery Willows, and the swallows with white breast sweep overhead, or in the twilight hour, when the glow of sunset touches the bending branches, and we feel how Nature's calm can bring repose to the human heart. She, too, struggles with adverse storms and cold and drought and needs unsatisfied, and yet, ever fearless, pressing onwards, brings her work to perfection in a summer's eve.

A. L. L.

ORCHIDS.

VANDA CŒRULEA.

THIS lovely *Vanda* is one of those Orchids of which no one ever seems to tire, the handsome blue flowers being so distinct from everything else in cultivation. Whether it can be termed an easily grown plant or not depends upon the conditions under which it is grown, for it is a singular fact that the treatment followed in one place with the greatest success is in another met with failure. Without a doubt many amateur and other growers have failed with it by allowing too much heat and a close, stuffy atmosphere. Because a plant comes from a point very near the Equator, it does not follow that it will need great heat, for high up on the mountain ranges the temperature is often low at night, while on the Khasia Hills, where this plant grows naturally, hoar-frosts are of frequent occurrence. I have both seen and had good results with this *Vanda* in a variety of positions, but the finest plants I ever had were arranged close to a ventilator in a house principally devoted to Cattleyas. They grew on the front stage, and as the ventilator was nearly always open, not only light, but air played freely about the foliage and roots. It is no use attempting to grow *V. cœrulea* where the house is dark or the atmosphere stuffy. For a time all apparently will be well, the growth luxuriant and green, and flowers produced in fair numbers; but the growth made is not the kind that an experienced grower likes to see. It is soft and easily checked, and is, moreover, exceptionally liable to be attacked by spot and insects. Grown in the position indicated, it is, on the other hand, solid and almost disease-proof; more flowers are produced from it, and a slight mistake in ventilation, watering, or what not is hardly felt by the plants. Yet even given these conditions *V. cœrulea* is not always happy, and though for a few seasons after importation the plants grow and flower well, something eventually goes wrong. It may be the roots will die back, turning almost black at the points and failing to obtain proper hold of the compost; spot, again, may set in and weaken the plants, or the centre of the main growth die, and the plant has only backbreaks to depend on. Any or all of these is a check to them, and unless the grower is more than usually fortunate or skilful the probability is that nothing he can do will arrest this backward tendency of the plants. Thus it can scarcely be classed as an easily-grown kind.

The treatment of the roots is not so difficult, for these are fairly vigorous, and soon take hold with a will of anything presented to them.

Large pots or baskets are not required, the roots being always healthier and longer-lived when closely entwined about the basket rods or sides of the pot than when buried deeply in Moss or other material. I have often had fine plants with a couple of good spikes to each in small baskets of about 4 inches wide. I never care to see this species made up into large specimens by placing a lot of plants together in wide pans. Not only do the varieties often differ from each other, but the amount of material that must of necessity be placed about the roots is not at all to their taste. The flat surface of the large pans prevents the grower from syringing the plants, as the water would lie on the surface and render it difficult to determine its real state as regards moisture. This syringing if not too heavily discharged is much enjoyed by the plants, especially on hot summer days, when it rapidly dries off and the water does not run into the leaf axils. It serves to freshen up the atmosphere about the plants and is greatly disliked by insects. The latter are not more than usually troublesome with this *Vanda*, though often imported plants are attacked by cockroaches and the small white scale that affects this class of plant. Ordinary vigilance will keep both these in check, and light fumigations are occasionally required to keep thrips and aphids down. If anyone interested has found this *Vanda* doing badly, it is worth while being at a little trouble to find it a suitable place. Sometimes it thrives in positions that seem the least likely for Orchid cultivation, where the atmosphere may be dry and draughty and where other species would hardly exist. It is wise to try a plant or two in various positions, and when the right one is found to leave them there. Frequent disturbance at the roots is wrong. The roots show their dislike to it by dying off at the points, and this checks the growth. Top-dress the plants annually and cover as many as possible of the roots that have been growing in the atmosphere, and by this means put off disturbance as long as possible. Then do it thoroughly, giving fresh material and cutting away any decayed portion of roots or stem.

H. R.

Cattleya Wallisi.—This beautiful *Cattleya*, though not so large as some of the labiate group, is so chaste as to always command admiration. Flowering, too, when the bulk of the season's blossoms are over, it is more than ever welcome. The sepals and petals are pure white, the lip has a blotch of orange-yellow, and the flowers are each about 5 inches across. In a light open part of the *Cattleya* house, where the temperature as a rule is higher than on the stage, this *Cattleya* does well if planted in small pans or baskets. The roots like a fairly rough and open compost, but not too much of it, as they are not particularly strong. Peat, Moss, and finely-broken crocks or charcoal over good drainage suit it best. Growth commences in late spring or early summer, the plants remaining dormant after the flowers are past. No drying off is necessary, the plants as a rule keeping to their proper season without it.

Odontoglossum Oerstedii.—Very pretty just now are the chaste flowers of this dwarf *Odontoglossum*. They occur on racemes from the base of the pseudo-bulbs, about four on each, and are individually not much over an inch across, pure glistening white, with a yellow centre to the lip. It is a native of Costa Rica, but found at a great elevation, so that the coolest house suits it best all the year round. The plants like an abundant supply of fresh air and ample atmospheric moisture the whole year round, consequently they do well suspended from the roof in company with such as *O. blandum*, *O. Cervantesi* or *O. navium*. Pans or small baskets may be used and

a compost as usually advised for the genus. The present is not its regular flowering season, but this is by no means constant. When the growths are getting well away, but before they commence rooting, is the best time to give new material to the roots, and the latter must always be kept moist, especially when active growth is going on.

Epidendrum variegatum.—Some of the varieties of this species are so unattractive as to be hardly worth growing, but there are many others that are very pretty and worth a place in any collection. It belongs to the section with fusiform stems or pseudo-bulbs, bearing each a couple or three deep green leaves, from between which the flower-spikes issue. The colour in a plant noted in flower during the week is very singular, the ground of the sepals and petals being milk-white, a faint green line marking the centre, while purple-brown blotches occur on each side of this. The lip is a very bright rose in the centre, becoming paler at the margin. The racemes are many-flowered, but all the flowers do not open at one time, and during the evening they are very fragrant. The plants are easily grown in a *Cattleya* house temperature, and may be placed in fairly large pots of peat fibre and Sphagnum Moss over good drainage. For the strongest plants a little loam fibre may be mixed with this. Plenty of water is needed while growth is active, and a free circulation of air about the plants tends to make them more free flowering. It is a native of Rio de Janeiro and a widely distributed plant that first flowered in this country in 1832.

Dendrobium Phalenopsis.—The lovely blossoms of this *Dendrobium* are now open, and it is evident that in many places this plant can be well grown year after year, though it must be admitted that in many others its culture is by no means a success. In a neighbouring collection I have noted a few plants with remarkably fine and healthy shoots, notwithstanding they are growing in a house principally devoted to warm house Ferns and stove plants generally. There can be no question that specimens vary in their constitution, some being much hardier and better growers than others, and this is the case with many other kinds rather difficult to manage. A good light, with plenty of atmospheric moisture and ample heat, is necessary while the plants are growing, and after the flowers are past it is all the better for a rest in a cooler house. The plants vary so much in their times of resting and growing that no special seasons can be given, but the most usual resting season is from March to mid-summer, a time when most Orchids are either in active growth or flower. A small basket or pan is preferable to a large receptacle, the roots liking to grow in a tangled mass one over another rather than ramble through a lot of compost. The original *D. Phalenopsis* had whitish flowers with a suffusion of rose, but there is an immense number of varieties now in cultivation, these rendering it one of the most useful of Orchids that bloom during the dead season.

Vanda teres.—There are few more beautiful species than this when the plants are well grown and flowered, the blossoms being bright and telling in the extreme, and much larger than would be expected by an examination of the growth. The ridiculous old system of tying the growths to stakes and allowing them to ramble away with nothing to hold by and the roots in mid-air has become almost obsolete, and a more sensible mode is practised. The stems are grown in proximity to rods or a Tree Fern stem that the roots can lay hold of, or they are cut down and new plants started annually. No Orchid requires a higher temperature, probably, or delights in stronger sunlight than this. In the brisk heated atmosphere caused by well damping and syringing, the sun meanwhile being full on the house, the plants grow like weeds and flower profusely. Plenty of root moisture is, of course, essential, and some cultivators ensure this by planting in a rather deep, but well-drained bed of Sphagnum Moss and charcoal. After flowering

and when the growth is complete, the atmosphere may be allowed to get a little drier and more air be given, so that the plants harden, and by the middle of winter a temperature of about 55° at night is ample. The roots, too, may at this latter season be kept almost dry, the plants thereby being induced to rest thoroughly and starting more freely because of it. *V. teres* is an old plant in collections, having been discovered in Sylhet early in the present century.

NOTES ON PHALÆNOPSIDS.

GROWERS of these beautiful Orchids have not had a very pleasant time this season, the long-continued spells of cold, damp weather, when for days the sun never showed through, being anything but suitable for their growth. It is true the temperature may be easily kept up by fire-heat, but the difference in the feeling of a house forced up by this means in dull weather and another kept buoyant and brisk by the action of the sun is very marked. It is important that the leaves of these Orchids are ripened and hardened as they grow. It is as necessary to ripen the growth of a Moth Orchid as it is that of a Vine, but whereas in the case of the latter, growth may be pushed along rapidly at first, and by exposure to sun and air later may be hardened almost artificially, this will not do for the sensitive Orchid foliage. There will be need of great care then during the coming autumn and winter, for, no matter how well the plants may look at present, there is always a danger of soft foliage giving way at the axils in early spring. It is the more puzzling to amateur growers for the simple reason that the effect of ill-considered treatment does not show itself at the time. One may dry the roots of a *Phalenopsis* for weeks, and yet the foliage will be as fresh as ever and no apparent harm will be done. The mischief is there and will eventually be seen, not perhaps always in the same way, but in some way the evil will out. Drought at the roots is especially harmful now to the semi-deciduous *P. Lowi*. A plant of this species that is in bad health at this end of the growing season is very unlikely to stand the effects of a winter's rest, which is really recuperative to strong, healthy plants. A very good way to grow this plant is to tie or wire it to blocks of teak, the latter standing in a pot or basket of crocks and Moss. This being kept moist, the moisture creeps up the block to the roots, while a few of the stronger of these find their way downwards into the Moss. Until signs of rest are observed, then, let these be kept very moist, only avoid wetting the foliage. The longer this remains on, the stronger the plant will be and the better the growth in the ensuing season. The leaves must never be taken off when they appear to be falling; if they keep on all the winter it does not matter, for many plants of this species are nearly evergreen, but it is much better to let them fall naturally than to hasten them when it is plain they are preparing to fall.

During the season of rest, *P. Lowi* requires less water than any other *Phalenopsis*. If large plants of the stronger-growing members of the genus have the Sphagnum growing very freely about them they will not require very frequent waterings. If too long a time lapses between the time of watering and their drying again, it will be necessary to remove a little of the Moss, it in some cases holding more moisture than the roots need. From the present time onward shading must be gradually decreased over these plants. The foliage is much too tender as yet to allow of anything like full exposure to the sun; indeed, more than usual after the dull weather will care be necessary, but the sooner a reduction is made the harder and more robust will the foliage become, and the better able to stand the ordeal of a cold, sunless winter with its lack of light and perforce air. The chink of air on the roof ventilators at night should not be neglected now, a little warmth being kept in the pipes so as to

maintain the temperature of the house at or near 65°. Damp the floors and stages freely with soot-water, this being of great assistance to the plants. H.

Cattleya granulosa.—Among the more recent importations of this old species, some very much larger forms than the original have turned up. I lately saw a flower upwards of 5 inches across, the peculiar greenish tint of the sepals and petals showing rather prettily behind the bright crimson-purple spots upon the lip. It is a medium grower only, but with ordinary care will flower freely. The growth comes away in early spring, the spike appearing from the apex, and after the flowers are past the plant must be kept dormant. Small pots and a thin compost suit it best.—H.

Lælia purpurata.—This fine old Orchid is still (August 6) making a fine show, a large old plant of an exceptionally good type always flowering much later than the rest of the plants here. The flowers are large, the lip exceptionally deeply coloured and handsome, and it is a welcome addition to the list of flowering Orchids now. *L. purpurata*, being a strong-rooting subject, likes more room in the pots than many, and if the growths are well away from the rim of the pots, surfacing is better now than repotting. If possible, keep the plants from growing again after flowering.

Dendrobium d'Albertisi.—The plants belonging to this section of the genus, and including such fine species as *D. taurinum* and *D. stratiotes*, are, it is true, somewhat difficult to manage successfully, and seldom are really good specimens forthcoming. Still, they are very beautiful and distinct, and anyone having plenty of heat at command should try them. It is of little use attempting to keep the plant of the above, for instance, to any set time of growth and rest; the best plan is to encourage it when it begins to grow and to let it take its chance as to the flowering season. The blossoms occur principally at the top of the stems in short racemes, are pure white at the base of the petals and lip, the former tipped with green, the latter having lines of purple. When really healthy it is a vigorous-growing species, but it is not wise to give it too much room, as in case of an overdose of moisture at the roots in winter these are apt to decay. A small pan or pot well filled with roots is more likely to be satisfactory than a larger one with a few roots in the centre of the compost and all the rest without any. Ample heat and atmospheric moisture with free exposure to sun while growing suit it well.

Atmosphere of Orchid houses.—In your issue of the 9th ult. you have an article on the atmosphere of Orchid houses, and among the recommendations is one of placing sulphate of ammonia on the pipes. Would you kindly inform me of the manner in which this should be done, also in what quantity and how often to produce the result desired?—J. G. WOMACK.

* * If your hot-water pipes are provided with evaporating troughs, these form the best receptacles for the sulphate. It should be broken up roughly and about a tablespoonful placed in each trough, with sufficient water to melt it. Add to the water as it evaporates for about a week or ten days, and then put in a little more sulphate. The ammoniacal fumes rise from this and are most effective when the atmosphere of the house is moist, as it always will be in the growing season. As with feeding plants at the root, so with the atmospheric treatment. Regular and light doses are required, an ammoniated atmosphere being always kept up. If more of the fumes are in the house than the plants can take up it is simply wasted by passing out of the ventilators. There is little danger of overdoing it unless it is gone about in a careless way. The fumes should never be strong enough to be felt by a person entering the house, as these may be injurious to the foliage, especially if the ventilators remained closed while the sun is shining; but if applied as above there is no fear of this.—H. R.

STOVE AND GREENHOUSE.

A BRANCHING DATE PALM.

BRANCHING Date Palms are frequently met with in India. The finest I have seen is the one now figured, and is growing in the Residency garden at Indore, Central India. It is sur-

manure in some form or other. Nitrate of soda, followed by guano, is as good as anything, and the roots should always be moist before applying it. The plants may be cut down when they are done with for the season, kept on the dry side through the winter and started and repotted in spring.

Fuchsia corymbiflora alba.—Several of the original species of Fuchsia are very beautiful, and

as in the type, have the exterior of the tube almost pure white, while the reflexed sepals are pink and the corolla bright red. The large white stigma is also very noticeable. A large, sturdy-growing plant of the variety alba is just now flowering freely in No. 4 greenhouse at Kew, in which structure another species is also in bloom. This is Fuchsia simplicicaulis, whose loose style of growth fits it for training to a roof, in which position the long pendulous clusters of blossoms are seen to great advantage. In this species the flowers are of a carmine-red tint, and a number of leaf-like bracts interspersed with the blossoms give it a very distinct appearance.—T.

Campanula mirabilis.—One of the most telling of new hardy plants at the meeting of the Royal Horticultural Society on the 26th ult. was this handsome Bellflower. A really good specimen forming a perfect pyramid was shown by Mr. M. Prichard, Christchurch, the plant being well-nigh covered with its pale blue flowers. The example in question was in a 9-inch pot, and to say that the base of the pyramid of blossom was on the average 3 inches in excess of the diameter of the pot all round will but fairly give an idea of the perfect form the pyramid had taken. Lying prostrate on the rim of the pot and spreading therefrom, even the lowest branches were crowded with flowers, and in this way gave some impression of what the plant is likely to be in point of effect when grouped freely in the rock garden. A curious point is the prostrate character of the semi-fleshy leaves that form the rosette prior to flowering, such leaves spreading out to a foot or even more across before attempting to spike. It is obviously a plant that to secure the best results must be grown very quickly from the start, planting out the seedlings quite young before it is possible they can become root-bound. A perplexing question at the present time is whether the new-comer is going to prove perennial or biennial. Present indications suggest the latter, and even at this it can be naught else but an acquisition to good hardy flowering plants. In the plant now referred to the tip of the pyramidal spike arched slightly, thereby producing a singularly happy result. The spike of blossom alone was about 15 inches high.

CYCLAMEN CULTURE.

THERE are few more useful plants than the Persian Cyclamen, and its popularity is well deserved. A few years ago when a good deal of stir was caused by nursery firms showing plants that had been grown from seed in about a year, this culture at the time being by no means general, in certain places the idea that these fine plants were grown in a high temperature gained ground, and even now the older plants are given greater heat than they need. The Cyclamen is a greenhouse plant, and there is no need of stove treatment at any time. All that is needed is a genial, moist temperature with all the light possible in the earlier stages, and shade from bright sunshine later in the season. The best time to sow the seed is undoubtedly as soon as it is ripe. The longer it is exposed to the air the weaker its germinating power. Care is necessary in sowing the seed, the capsules bursting and wasting it if allowed to remain too long on the plant. Sheets of white paper may be laid between the pots, and the seed-pods picked when fully ripe before they burst. Sow thinly with a dibber about half an inch below the surface in pans, using rather coarse silver sand with the compost, and as the seed is sometimes longer in germinating than at others, it may be necessary on occasion to lightly prick over the surface before the seedlings appear. The latter may remain in the seed-pans long enough to get the second leaf—only one appearing at first—and here the advantage of thin sowing is apparent. A temperature at night of



A branching Date Palm (*Phoenix sylvestris*) at Indore, Central India. From a photograph sent by Mr. C. Maries.

rounded by Mangoes and other trees. I once saw several of these Dates at a place near Barh, in Bengal.

C. MARIES.

Cassia corymbosa.—This bright and showy old greenhouse plant is at its best now, and standing outside it keeps up a display over a very long season. It is one of the most gross-feeding of greenhouse plants, and consequently when flowering or growing must have liberal applications of

with their varieties are well worth a place in our greenhouses and conservatories, differing as they do in a most marked manner from the innumerable garden forms that we have now in cultivation. The typical *F. corymbiflora*, which was introduced from Peru in 1840, is of quite tree-like habit, with large leaves and immense pendulous clusters of blossoms, which are quite 4 inches long. The variety alba, a very uncommon form, differs from the typical kind only in the colour of its blossoms, which, instead of being rosy scarlet

about 60° is ample at this stage, and the house may be, if possible, kept a little closer when the young seedlings are placed into the small pots. The little bulbs and roots should be lifted out with as little disturbance as possible, and as the former in the early stages rest on the surface, they must be potted just a little lower. At this and subsequent shifts the compost may consist of good fibrous loam three parts to one of peat and leaf-mould, adding to this a little well-dried cow manure and a plentiful sprinkling of coarse sand. At the first potting this cannot, of course, be used in a rough state, but when the larger size is reached the rougher the better. The above is what I use here as compost, but where it is difficult to obtain any of the ingredients, the best at hand must be substituted. Soil, of course, is an important matter, but careful atmospheric treatment is far more so. The best position for the plants all through the spring and summer is on light, open stages in low span-roofed houses, or else on temporary shelves fixed fairly close to the roof glass. In the latter position they are, of course, apt to dry up rapidly and the roots are checked, so examination of the pots twice daily in summer is imperative. The shift into the flowering pots may take place at any time between the middle of July and the end of September, according, of course, as the plants are early or late. I have found that seeds sown in the latter month are fine plants by the end of July and may be potted then. These should commence to flower in November and go on till March at least, and are the most useful batch.

Regarding the resting treatment after the plants have flowered, there is a great difference of opinion among growers. Whichever is the right way, there is no doubt the careless practice of standing them as thick as they can possibly stand in dark pits, frames, or elsewhere is decidedly wrong. No air reaches the leaves, and these naturally soon turn yellow and drop. Some of the plants are very dry, while others are wet, for it is impossible to tell whether they want water or not. In one case they are starved and weakened; in the other the roots are all killed, and the bulbs are sure to start badly. My plan is to remove the light shading provided while the plants are in flower, and water as usual until the foliage shows signs of ripening. Then the water supply is gradually withheld, and the plants have a month or two at midsummer without any water at all. In some cases all the foliage dies off; in others a few of the younger, strong leaves remain, but these as a rule fall as soon as the bulbs commence to grow. Repot when signs of growth appear after a good soaking of water has been given. With these old plants it is safest to leave the top of the bulb just above the compost line. Shake most of the old material from the roots and pot fairly firm. Water as little as possible until the roots have had time to get out into the new material, and keep a moist growing temperature about them. Light syringings are helpful in all stages of the growth of the Cyclamen, but the water must be discharged in a very fine spray and as far as possible applied to the under sides of the leaves rather than the upper. For feeding the plants use weak guano water at frequent intervals alternately with the same quality of clarified soot water, the good effect of the latter being especially apparent in the healthy appearance of the foliage. Should thrips or green-fly appear, fumigate or vaporise the house at once.

Asparagus Sprengeri.—The illustration of this given in THE GARDEN at page 88 shows off this plant well. I have this growing in a pot, and can

strongly recommend it to those who want a plant for hanging baskets. Another way of using it to good effect is to grow it in pots, slightly staking it out with fine stakes. Where there are vases in high positions in rooms, then the plant can be dropped into the vase and allowed to hang over.—DORSET.

Caladium luteum auratum.—It is now about thirty years ago since the late Mr. F. Bause raised several golden-leaved Caladiums that were named after members of our royal family, and which have remained ever since as the best of their class; in fact, very few of this section have been obtained from that time to now. A later addition to this class is *luteum auratum*, which is, I believe, of continental origin. In this the entire leaf is of a uniform yellow with a tinge of green, and though certainly less showy than many other kinds, it affords a very distinct and pleasing variety.—H. P.

ORCHARD AND FRUIT GARDEN.

PLANTING STRAWBERRIES.

IN many gardens planting will be late this year, but the delay will not be much felt if we get genial rains, as the soil being warm, root-action will soon be active. Last year I saw a very large quarter of Strawberries nearly barren of fruit. The planting had been well done, the land had been trenched three spades deep, the good top soil placed in the bottom of the trench out of reach of the roots and manures also, with the result the soil that was at the surface was so poor the plants made little progress and were a complete failure. I am aware in some gardens one may trench between 2 feet and 3 feet deep. Much depends upon the soil, but it is not needed if the plants do not occupy the quarter more than two seasons. I adopt a different course altogether, and find it more profitable, having a shallow soil less than a foot in depth in many parts of the garden. I plant yearly and only take one crop from such free-growing varieties as Royal Sovereign, President, Noble, La Grosse Sucrée and others of a like nature, keeping the Pine section, Latest of All, and those that may be classed as weak growers two years only. It is useless to plant weak plants in September to fruit next June, and in such a season as this, when runners from fruiting plants will not be ready before the middle or end of August, the plants grown thus will be better the second year than the first. If runners are purchased, I have at times had them too small to make fine fruiting plants the next season. This can be avoided if plants in pots can be purchased for early planting. I grow a goodly number of plants for the production of runners, but there is no loss in so doing, as after the runners are procured the quarter is made tidy and the plants allowed to give a crop of fruit the next year. They bear an enormous crop, and are earlier than those that have fruited before. By planting every year, or at least every other year, the grower who has a poor soil to deal with can obtain much better results at less cost, as the land will be in better condition for other crops. Drought and wireworm are the greatest enemies I have. To combat these it is useless to place the top spit or old surface soil too far down, and I merely double dig—that is, dig the top spit and then fork up the bottom, the manure being placed between that is under the top spit, and in liberal quantities too. I never use horse manure if possible on such land; cow manure, that from pigs, or both combined are much better, as these retain the moisture, and the plants when they get hold make a fine growth. Night soil mixed with a liberal proportion of soil

is excellent food for digging in; indeed, if mixed with burnt refuse it is one of the best fertilisers for quick-growing crops. I plant as early as runners can be obtained 2 feet between the rows, 18 inches between the plants. This is rather close many will think, but I only take one crop. I tread the land as hard as possible; indeed, it is gone over with a heavy roller previous to planting to enable the plants to make a sturdy growth. Each row of plants is firmly trodden after planting to keep the roots well down. I draw drills previous to planting. This allows of moisture being given freely, and in October the drills are filled in and the plants trodden round. They winter grandly. In growing for runners the trusses are pinched off as soon as they show early in May, and any backward trusses are treated similarly as they show. I have secured some 8000 runners this season. Five thousand are in fruiting pots for forcing; the remainder for planting. I like to have all runners planted by the middle of July, but owing to the late season and drought I am two to three weeks later than usual. By annual planting wireworm is kept in check. I use gas-lime, soot, and charred refuse freely when preparing the land, and it is not lost on other crops which follow, as it checks the spread of club in the Brassica crops and prepares the soil for shallow-rooting crops, such as salads, Spinach, and others. In the following May after planting I give a light dressing of some approved fertiliser. This will strengthen the flower-trusses, and the surface is lightly hoed over before putting on the protecting material. I find fish manure or guano excellent. This, given at the time named in showery weather, is soon carried down to the roots. G. WYTHES.

COLOURING MUSCAT OF ALEXANDRIA GRAPE.

ONE of the many things which try the skill of a Grape grower is the colouring of white Muscats. Some recommend abundance of air, others seem to think a stimulant necessary, while there are not a few other ideas afloat on the subject. Some twenty years ago I had a span-roofed house of Muscat of Alexandria, running at a right angle from a range of lean-to's, in the gardens of Sir Robert Jardine, Bart., at Castlemilk, Dumfriesshire. In this house there was a portion to which no means of ventilation was provided, and yet in this corner I always had beautifully coloured Muscats. A remembrance of this in recent years induced me to adopt a new method in colouring Muscat of Alexandria, and as the results were everything that could be desired, I am penning this note in order that others may try the same, and in the hope that equal success will attend the treatment. Instead of keeping the ventilators open more or less from the time the Muscats showed signs of colouring, I continued to close the house at the usual time in the afternoon, running up the temperature to 90° and 95°. No more air was admitted until next morning, or till the sun raised the temperature above 75°. In short, I continued the treatment suitable to the Vines after the berries were set right on until they were finished. Since I adopted this plan I have not had the least difficulty in securing a beautiful amber colour in Muscat of Alexandria. Of course, such treatment would be detrimental to the colouring of black Grapes; therefore, only such a course as suggested should be adopted where the house is filled with white Muscats, or the Muscats associated with such other white varieties as Mrs. Pearson, Pearson's Golden Queen, &c. Having practised the shutting-up system for colouring Muscat of Alexandria Grape for three years with every success, I would strongly advise everyone who grows this Grape in a house, either by itself or with other white varieties, to give it a trial. Those who do so will

be surprised at the rapid progress the berries will make in colouring and the finish they put on.

J. RIDDELL.

Peach Waterloo.—I gathered this Peach from a south wall on July 26. Few Peaches are superior in colour, and the quality is really good for such an early variety. We have several others equally early. For instance, Early Alexander and Amsden June come in at much the same time. Amsden June was ripe on July 20. I prefer Amsden June and Waterloo to Alexander. The soil may be answerable, but with me Alexander is none too prolific; whereas Waterloo is a grand cropper, and, what is better, the trees usually make a splendid growth. As the variety ripens with Alexander, the two are not needed, and I give Waterloo the preference. All the kinds named are American introductions, but valuable, as they give us fruits so long in advance of our own early kinds.—G. W.

Peach Early Grosse Mignonne forced.—This Peach is not grown under glass so much as it deserves. I am aware it is not so large as the older Grosse Mignonne, but, unlike that variety,

value of Hale's Early, and may not need two varieties to come in at the same time, but this is so distinct and so good that it makes a valuable addition to the Peaches at the season named.—G. WYTHES.

APPLE WARNER'S KING.

FEW Apples are so popular as the variety illustrated. Its size and appearance make it well known, and the quality being first rate there are few gardens of any size in which it is not grown. At the Apple congress held in the Royal Horticultural Society's gardens in 1883 this variety was staged by no less than 140 exhibitors. It had no less than twelve synonyms, favourite names being Nelson's Glory, Poor Man's Friend and the King Apple. This shows its popularity, as it may be grown in most soils and is not particular as to locality. I have seen very fine fruits grown within half a dozen miles of the city and not under the best possible conditions as regards soil and situation. Warner's King may be classed as an

and grass-green skin in an unripe state. When ripe it takes on a clear deep yellow, with patches of brown russet on the sunny side. The tree makes a vigorous growth, and is not much subject to disease. It is one of the best as regards quality, the flesh when cooked being delicious. I find the trees resent hard pruning. The crops from standard trees are grand when the trees are not crowded and the fruits large. As a cordon it bears fairly well, but the hard stopping is not conducive to free fruiting. The greatest difficulty with standard trees is that the fruit, owing to its size and weight, is in rough weather liable to be blown off. To avoid this I would advise a dwarf standard. Avoid crowding the trees, as, to get the rich colour described, free exposure is necessary. It is well named the Poor Man's Friend, as I do not know of any variety more productive or one that commands a better price even when gathered direct from the trees. It is a great favourite on the exhibition table, and always a prominent fruit in collections. In its season it is difficult to beat either for size or quality.

G. WYTHES.

MELONS FOR FRAMES.

PLEASE say what are the best flavoured Melons to grow in ordinary Melon pits without artificial heat.—WESTPORT.

** In ordinary garden frames I have had Melons equal in quality to hothouse fruits; indeed superior, as the Melon in a frame gets more natural treatment. Houses are often kept in a hot, steamy condition, this affecting the flavour of the fruit. Few varieties will beat the old Golden Gem, but I have found this old variety difficult to obtain true to name. Of newer Melons, Gunton Orange is one of the best for frames. This is a small fruit, but it is of delicious flavour, and, what is so necessary with frame Melons, it is a quick grower, soon arriving at maturity, and has a thin skin. I always find that a Melon that takes long to ripen is not suitable for frame culture. Another point equally important is to grow those of a short-jointed nature and with medium-sized leaves. Varieties with large leaves are difficult to set in frames without artificial heat. Other excellent varieties are Read's Scarlet Flesh, a medium-sized fruit of great merit; Syon House, also a medium fruiter, with a densely netted skin, scarlet flesh, and of fine flavour. The old Beechwood was a grand frame Melon, but it is now not to be had. If another scarlet is needed, Blenheim Orange is a very fine variety. This takes a little longer time to finish than Gunton Orange or Syon House, but it is of first-rate quality. Of white-fleshed varieties The Countess is one of the best, but this needs more time to ripen. Hero of Lockinge, not unlike it in size and quality, is a rounder fruit and has a thick skin. This should be grown under the best possible conditions. It does well in a frame with a little heat to finish the fruit, and it keeps longer than many kinds after colouring. Green-fleshed varieties I do not advise for cold frames. These mostly need warmth to perfect their fruit. They do well from May to September, but earlier or later one does not get the best results in a cold frame. Of green fleshed kinds, Victory of Bath is very good. Of newer kinds, Middlesex Hero, Epicure, and Windsor Castle also do well in frames. For years I grew Melons in cold frames that had grown Potatoes, Beans, or other early vegetables. The soil was levelled over, made firm, and about half a bushel of fresh loamy soil added. In this two plants were put out, one to fill the upper the other the lower part of the frame. The seeds were sown during the third week in April for planting at the middle of May and raised in the frames, as I found I got much sturdier plants grown thus, as they were close to the glass and clean and when planted they went away well. In frames every bit of warmth should be made the most of. At



Apple Warner's King. From a photograph sent by Mr. A. W. Brown, Belwood Cottage, Perth.

it forces much better and is a very fine flavoured fruit. Many will think the Grosse Mignonne a shy fruiter when hard forced, but this refers to the older kind, on open walls one of the finest Peaches in cultivation, as it has few equals in quality and is one of the best mid-season kinds grown. The early variety is not quite so large. This ripens with me on an open wall the first week in August in a good season, and the trees fruit grandly. Those who study quality should grow this variety in a cold house. It is one of our best Peaches, not a strong grower, but remarkably prolific. I have frequently had the larger variety sent for the early one.—S. M.

Peach Early Canada.—This little-known variety is well worth more attention. It is an American variety, and in that country it is much valued for its cropping. With me it has never failed to crop freely, and, what is better, it can be forced, its season being the same as that of Hale's Early. On open walls I think it is the earlier of the two. The fruits are large, of a beautiful crimson colour, and of excellent quality. The trees make more growth than most of the American varieties, and there is no casting of buds when the trees are forced. Everyone knows the

early cooking Apple, in season from October to early December. I am aware fruits may be kept much longer; indeed, I have seen this variety exhibited in March, but I fail to see the utility of showing fruits when their flavour is gone. With me this fruit is at its best early in October. The soil being light in a measure doubtless hastens maturity. This is one of the heaviest croppers, and it rarely fails to bear freely most seasons. In some soils, if kept, it spots badly. As an early market fruit it always commands a high price if the fruits are carefully packed and graded. Being a soft fruit it soon shows bruises, and in gathering needs more than ordinary care if the fruits are to be stored. It is a great favourite in Scotland, as the illustration will show that splendid fruits are grown in that country. The fruits are very large indeed. Some have exceeded 2 lbs. in weight, but to get size it is necessary to thin freely. My best fruits have been produced on bush trees on the Paradise stock. On this stock it is most fertile, but it makes a good standard in suitable soil. The fruit is well known by its small closed eye

night the glass should be covered with mats, and in the day it is well to ventilate carefully, not giving a lot of air at one time, but by degrees as the sun gains strength. Early closing is equally important. Plants put out in May will show fruit in the early part of July. The first fruits are secured and the plants are stopped at 2 feet. They then push out laterals, which are stopped at the second joint above the fruit. Artificial fertilisation is necessary, and it is well to secure the first fruits that show, as with frame Melons I would rather have two early fruits than four late ones. After the fruits are set, liquid manure or a good fertiliser may be given freely. Growths not needed may be cut away to admit light and air. As the fruits approach maturity give no food, water sparingly, and admit plenty of air.—G. W. S.

APPLE CULTURE NEAR LONDON.

IN dealing with such a subject as this it is, I feel, somewhat of a difficulty to say anything fresh, or what has not by one or another practical grower been already said or written. I shall, therefore, follow lines that have from time to time come under my notice or observation. Let me at once state that I am no believer in what may be called "rule-of-thumb" practice, but, on the other hand, a firm adherent to adapting the circumstances to each respective case. Failures may and do occur, but even in failures we gain experience for the future benefit of ourselves and others. Neither should we be disconcerted if we do not at first, or in after attempts even, always attain the object of our wishes. Perhaps if we always succeeded at the first we should not in the end be any better off, the relaxing of individual effort being under such circumstances the natural sequence. It is a healthy sign for the future fruit industry of this country that the enthusiasm of growers, both amateurs and the trade, is being aroused to producing not only more fruit, but that (what is in my opinion of the utmost importance) of better quality also. What is most needed to bring about this result is a greater regard for detailed or more scientific management rather than haphazard planting regardless of the surroundings, climatic and otherwise, of each particular locality.

VARIETIES.

The Apple amongst fruits is to a great extent what the Potato is in relation to vegetables; it is the staple fruit beyond any question. A good supply of Apples over a prolonged season will well compensate for any additional labour expended in their culture, setting aside, of course, any fancy mode of growing them. I am no advocate for extremely early kinds for private use; for market it may be different. It is an easy matter to obtain the earliest supply from windfalls, besides which the earliest sorts are not oftentimes good keepers. Lord Suffield with me is a case in point. As an early Apple I give the preference to Ecklinville, to succeed which I have had good results from Cox's Pomona. Its one failing with me has been the tendency to split at the stem, after which, if the weather be wet, decay ensues oftentimes. My next Apple on the list is Golden Noble, which in my case has never failed to crop since coming into bearing after planting in 1876; the tree possesses a vigorous constitution, with an erect and sturdy growth. Waltham Abbey Seedling succeeds the foregoing well, being in good condition until nearly Christmas. Then Blenheim Orange comes into use, it being followed by Bismarck, which has quickly established itself as a general favourite. Wellington, which I find to do fairly well, comes next. As a late kind I have had

the best results with Alfriston, and of the newer kinds I give most decided preference to Newton Wonder; it will no doubt supplant the Wellington. An unfortunate name is Newton Wonder, as it may lead to confusion with Newtown Pippin.

Of dessert Apples, I commence at present with Gravenstein, which always crops well and is a sprightly flavoured fruit. Next to it in succession comes King of the Pippins, which is quickly followed by the (in my opinion) prince of dessert Apples, Cox's Orange Pippin, which of itself covers a prolonged season. Scarlet Nonpareil succeeds it admirably. This Apple with me crops well and carries the succession forward into the spring. I have only given a dozen varieties, these being those on which I chiefly rely. Of other cooking Apples, Prince Alfred is undoubtedly a very fine fruit for use after Christmas. Thus far I have not got it into good bearing condition, my trees being young. I have been given to understand that it does best on the Crab stock. Gascoigne's Scarlet also promises well; it is by some growers classed in the same category as the Blenheim, viz., for dessert and cooking. As an October (and possibly later) dessert fruit I favour St. Edmond's Pippin, which belongs to the Russets, and will, I think, prove to be an acquisition, but as yet it seems to be little known. My soil is a light loam resting on gravel which overlies the London clay, and the garden is about 70 feet or 80 feet above the river Thames. During prolonged drought I suffer very much from want of moisture, but on the whole I am able to produce from old trees even good average sized fruits. The one failing is a deficiency in colour. This can easily be accounted for when it is taken into consideration that the garden is only six and a half miles from Charing Cross. I am now gradually forming a new orchard of Apple trees, dwarfs on the English Paradise stock. Thus far I have been very well satisfied with the results, having only commenced four years ago. Last year Newton Wonder and Bismarck of cooking sorts, and Cox's Orange Pippin and Baumann's Red Winter Reinette of dessert fruits gave me some good samples. These and other kinds are planted on grass land (old pasture), the loam being of good consistency, neither heavy nor light, but shallow, the gravel being reached in two spits, or about 18 inches. Here I think the English Paradise will succeed. The one difficulty I have so far found is in the labour of watering, but when the trees are well established this will not give trouble. In planting, I took off the turf and dug the holes some 3 feet in diameter and two spits deep, placing the turf at the bottom, adding to the soil a little light manure. After planting (the distance apart each way being about 12 feet), I mulched with manure on the surface and watered the trees well to settle the soil. I have not thus far dug any more around these trees, nor do I intend to do so at present. My reason for this is to keep in check a too robust growth. If the ground were dug all over and after that again laid down in grass, the roots would ramble away from home, I think, too quickly. By this it will be gathered that I favour a firm soil, which I do for orchard culture. With these trees my intention is to prune moderately. I do not advocate severe pruning in any case; it only tends to a renewed vigour of growth with other attendant evils, as canker. The better plan is to get the trees into bearing as soon as possible, and then adopt the treatment needful in each case. For instance, if there be a tendency to produce strong shoots of a non-fertile character, I would pinch

these shoots so as to encourage the weaker ones, and thus balance the growth. When too much vigour is apparent throughout any given kind, then endeavour to starve the trees rather than feed them, and afterwards use the knife severely. Should I find root-pruning necessary, I shall not hesitate to practise it. This I consider should be done earlier in the season than it is as a rule performed, and that before the leaves fall. It may be thought, perhaps, Why did I not plant standards rather than dwarfs? My answer to this would be from the standpoint of utility. The dwarf trees are more easily managed as regards pruning, the gathering is done more expeditiously, and the fruit is not so liable to injury from winds. Personally I think we have too many standard Apples. Anything beyond 3 feet of clear stem does not find favour with me. When I have perforce of circumstances planted standard trees, I have particularly noted that they have been longer before arriving at a fruit-bearing condition. I have, however, some old trees of standards on grass planted more than forty years back, which still bear well. The best of these are Waltham Abbey Seedling, King of the Pippins, Blenheim Orange, and Wellington. When at the Deepdene Gardens, Dorking, as foreman, during 1868-70, I noted particularly that the finest-flavoured of the dessert Apples were from trees on grass, facing west, the soil a rather light sandy loam. I slightly thin out the old standard trees, removing the cross wood and the weakly shoots as early as possible in the pruning season; this has given better fruits. The unusually wet summer of 1879 was followed by a severe winter. This seriously injured many of the large trees, especially those on cultivated kitchen garden ground. Since then I have gradually lessened their numbers, and still hope to do so, in order to have the cultivated land entirely free of shade for the other crops. It is, I consider, a mistake to encumber the kitchen garden too much with either Apples, Pears, or Plums (or, in fact, any other kind of fruit-bearing tree). It must not be thought that, by planting standard trees, the ground still has the same productive powers as it would otherwise do. It is better to adopt the market-garden system of growing bush fruits and the others of tree-like habit in alternate rows than to take a partial vegetable crop instead. Fruit trees around the borders are very well, being easily managed, but let the quarters be as free as possible. In many cases I am very much disposed to think the non-fruiting character that is evinced by indiscriminate planting where the soil is heavily dressed with nitrogenous manures is thus oftentimes brought about. Then if severe pruning afterwards obtains, the case is only aggravated and canker will ensue. Espalier-trained trees are, I think, preferable in the kitchen garden proper, as the borders will thus be less under shade. Cordons, too, are most commendable for marginal lines. For small gardens, both espaliers and cordons should find more favour, the great point to observe in such limited spaces being that of guarding against any undue amount of shade. To occupy walls with Apples is scarcely advisable when other fruits can be profitably planted against them; should the American blight attack wall trees, the process of cleansing is not such an easy matter.

To plant Apples after Apples on the same ground is a most decided mistake. If it has to be done in order to preserve the uniformity of appearance, remove the soil and substitute fresh. It will pay to do this even if it is only by making an exchange from another plot. Plums or Cherries would be much better if other fruit

trees are planted after either Apples or Pears. It will happen occasionally that some given kind or another does not yield a profitable return. To remove such, root and branch, is not advisable if the tree be healthy and vigorous; the better plan in order to introduce another sort, or to increase those which have been proven to thrive well, is that of grafting. It is surprising how soon a change can thus be made. Either cleft grafting or crown or rind grafting are about the best methods. I have noted particularly that fresh vigour has in some cases been thus imparted to the tree. In selecting trees to be thus operated upon do not commit the mistake of cutting away at the usual period of pruning the branches of such trees, but rather leave them until the time arrives for grafting. The

OLD APPLE ORCHARDS about the country which have been woefully neglected and severely let alone, save to gather the fruit, are oftentimes, and rightly so, condemned. Many of these may yield good crops as regards numbers occasionally, but in size there is a deficiency, and if any are to be sold the prices obtained are not what they should be. I am now thinking more especially of grass orchards. By practising a thinning-out process where the growths are dense, a deal of good may undoubtedly be done in such cases, whilst if the trees are impoverished by bearing crops of small fruit further assistance should be given them in the way of manures; farmyard manure in such instances could be advantageously employed, first removing the turf or digging it in, then mulching the surface, and allowing no grass to grow around these trees for a year or two. Failing farmyard manure, there is the liquid manure, which in many places is allowed to run to waste. Soot or lime would also prove efficacious, but not conjointly, because in a measure one counteracts the other. Road scrapings with either would be a good combination. Of other manures, I would apply bone-meal when and where it can be obtained at a moderate figure. In this way when the trees are free from disease, it will be possible to renovate them to a great extent, exhaustion being the cause of failure. Large orchard trees which bear heavy crops of small fruit are, relatively speaking, more severely taxed than trees which bear weightier crops of finer fruit, but in lesser numbers, the resources of the former being concentrated in a greater degree in the perfecting of the pips or seeds, just the same as in the cases of Peaches and Nectarines, Cherries and Plums, during what we term the stoning period. It is then in every case when the trees are strained to their greatest capacity. Old orchards, which to all intents and purposes are beyond any dealing with in a profitable manner, had better be destroyed and the ground devoted to other crops. Where the trees are apparently suffering from too much moisture in the soil, when such is heavy and retentive, open ditches might be an assistance, or in extreme cases drains would be advisable. In planting a new orchard on such ground I would most certainly advise draining in the first instance. In selecting a

POSITION FOR A NEW ORCHARD, I would prefer the ground to besloping gently towards the south, south-west or west where the loam is heavy or at all retentive of moisture. On the other hand, if the soil be a light or mellow loam, a flat surface would be the better of the two in my opinion. In any case a good depth of loam is preferable. Low-lying positions, where there is danger of injury from spring frosts, should be avoided in all possible cases. Unfortunately, amongst gardeners who have the privilege and

opportunity of planting new orchards, the choice of the position is not left to them so often as it should be. In this, as in other matters pertaining to the garden, it is an egregious blunder to suppose that any spot is good enough either for the garden proper or the orchard. On the other hand, the best possible positions should be accorded, for surely the garden is not or should not be deemed an eyesore. In planting it will pay to do the work well in the first instance, never omitting to water the trees immediately afterwards, whilst care should be taken not to plant too deeply. If the trees be standards, stake them at once, three stakes being better than one thrust between the roots. By pruning moderately the first season, instead of hard pruning, there will be a greater encouragement given to the formation of fruit-buds. Mulching should always follow the planting, it will protect the roots through the winter from too severe a frost, through the spring from parching east winds, and through the summer from extreme drought, and thus lessen the need of watering. It will pay to give attention to this last item of work, and that as closely as possible for the first few seasons. We have to guard as much against the young wood becoming extremely hardened or bark-bound as we have against a too luxurious degree of growth. I strongly advise early planting in every possible case; from the middle to the end of October is infinitely better than any time during November or December. As regards

STOCKS, I favour the English Paradise for all garden trees, except in special cases (as the one I have quoted). To me it seems to be the best in every way for gardens, as it is also for orchards, when due attention can be paid to the trees. In poor soils, the Crab would possibly be the better selection by reason of its greater vigour, as it would too, perhaps, when the after-labour is likely to be too limited. The French form of the Paradise does not appear to be so hardy as the English, and it is not, I think, so much in use as formerly. In one orchard with which I am acquainted, the cooking Apples are worked upon seedlings of good free-growing sorts. The result is all that one could wish, slightly more vigour, perhaps, being apparent than some of us would like to see, yet the produce has been satisfactory. All things considered, I think the English Paradise, by reason of the numerous fibrous roots which it makes, commends itself.

GATHERING THE FRUIT.—Some people gather their Apples sooner than they ought to do for fear of their falling. It would be better if we could leave them as long as possible on the trees. Against this it may be reasonably perhaps urged that the autumnal gales are an uncertain quantity, but I would rather risk the loss of a few than spoil more afterwards through gathering them too early. If some do fall over and above what are at the moment required, they can be turned to excellent account for preserving as jam. For jelly it is better to have all of one kind, but for jam it is of less moment. In gathering, every possible care should be taken not to bruise the fruits. A small gathering basket is better than a large one, and a medium-sized receiver not of great depth is a yet better article. I have occasionally seen Apples that are at all susceptible of impression distinctly bruised when a large quantity has been put into one deep basket. The greater weight, even for handling, is also an argument against this procedure. I daresay most of us have had to contend at some time or another with shrivelling to an undue extent when stored. This will arise from various

reasons. Too much warmth, as when the fruit room is artificially heated, too much ventilation continuously given, and too much woodwork that is neither painted nor varnished are all likely to produce shrivelling. I would rather be inclined to advocate a partially sunken fruit store so as to ensure some degree of moisture. This, too, would keep the fruit safe from frost. A temperature of 36° Fahr. should be the lowest; 40° even is low enough. The best fruit room of which I have had charge was entirely below ground, but the best store place of which I have ever had any experience was a cave which had been excavated for some distance into a sandy bank. Here the fruit used to be kept lying on the sandy bottom; no fruit could possibly have kept better, whilst the flavour of the dessert kinds in that particular case was always noted. It is better to keep the fruit room almost in darkness; this will in a measure prevent shrivelling, all the more so if it be kept nearly closed after the fruit has gone through the sweating process. Woodwork that is not painted or varnished, and brickwork that is not well coated with whitewash, likewise cement floors, are all to a greater or less degree absorbent, extracting the moisture from the atmosphere of the store, and thus in turn the fruit is affected. Too much care cannot be exercised in avoiding the use of hay on which to lay fruit for even a short time, as the pungent properties of the hay will be perceptibly imparted to the Apples or Pears. Anything, in fact, that emits any odour will act prejudicially against the flavour of fruits such as these.

Many of us who are gardeners know that there is a considerable difference in the cooking properties of Apples. There are those which, to use a common term, quickly go to pieces when cooked too quickly or too much, such as the Wellington and Waltham Abbey Seedling, for instance. On the other hand, if these Apples be carefully attended to they are perfection. The properties of good cooking Apples as to their treatment in cooking can be usually discerned during the paring and slicing. I fear, however, that with many who have charge of this work, an Apple is an Apple and nothing more. I know some cooks who add water to cooking Apples before cooking them, but this should altogether depend on the firmness or otherwise of the particular kind. In the baking of Apples also there is room for improvement. Oftentimes these are placed in too fierce or quick an oven; the result is that the skins quickly swell up and burst and the fruit is reduced, as it were, to a pulp, the skins themselves frequently being burned brown really before the fruit is actually baked. On the contrary, baked Apples should be placed in a slow oven, or one in which the heat is receding. As baking Apples I much prefer the Russets, the Blenheim or Bess Pool, rather than those with softer flesh. In Apples, however, as in other fruits, there will undoubtedly be a difference of opinion amongst all as to what constitutes the ideal fruit. Perhaps most of us would give the premier position to Cox's Orange Pippin for the dessert. In my opinion it is the best; its medium size is in its favour, so is its firm, crackling flesh, which again stands it in good stead as regards its keeping properties, besides which it is not a rank grower (at least I have not seen it as such), whilst also it is a reliable cropper on the whole. Tastes differ as regards flavour. I think the best flavoured Apple I ever tasted was Egremont Russet; Mannington's Pearmain, too, is one of my favourites. As a cooking Apple, when in season Waltham Abbey Seedling is hard to

beat. I consider it one of the very best, better, to my taste, without any sugar at all (often-times I consider sugar is used too freely). I have alluded to a few of the newer Apples as being tried under my charge. To these I would add Beauty of Bath as an early dessert kind and Early Rivers as another, but for cooking it is earlier than Lord Suffield and has a harder constitution. Bramley's Seedling is unmistakably an excellent late kitchen Apple, having the essential keeping quality, viz., firm flesh. Although not new, the American Mother is worthy of notice; not the best, perhaps, in appearance, but one of the finest in flavour. Note, however, that it is grown on the Paradise stock. I consider the system adopted by Mr. Crump, gardener to Earl Beauchamp, at Madresfield, an excellent one, viz., that of propagating Apples and other fruits in the home nursery for distribution amongst his lordship's tenants. Mr. Crump is a close observer of suitable varieties for the district, which must considerably enhance the productive capacity of the tenants' orchards. I have scarcely touched on

DISEASES OR INSECT PESTS.—Of the former, canker is the most troublesome, at least from my observation, but, fortunately, I have escaped it fairly well. How to avoid it I have alluded to in previous remarks; to get rid of it is another matter. If the trees be vigorous, allow extension if possible with the hope of better crops to equalise matters; on the other hand, if the trees be, as it were, exhausted, then my advice is to destroy them. Of insects, the American blight is, I consider, the worst enemy. For this, Mr. Wright, of Chiswick, advises Jeyes' fluid, at the rate of half a pint to the gallon of water. I have tried other washes, as McDougall's, which has been effectual. Of the much-dreaded caterpillar in the spring I have had, fortunately, but little experience, I am glad to say; hence I have not made any test for its destruction. At the same time I keep a keen eye in the spring should it appear.

Gunneshbury House, Acton. J. HUDSON.

NOTES AND QUESTIONS.—FRUIT.

Melon Hendre Seedling.—This is a finely netted kind, white outside, with scarlet flesh. I consider it an advance on Blenheim Orange. The flesh was tender right to the rind. My fruit was from a plant grown in a big pot on an open stage in a plant stove. It is not an extra large kind. Those who want a fine scarlet-fleshed Melon should give it a trial, as evidently it has a good constitution.—J. CROOK.

Strawberry Royal Sovereign rotting.—On reading over the notes from Mr. Tallack on Strawberries, I observe he finds this kind prone to rot. I agree with him in this, having found the fruits do just the same. Last year I made several rows from plants that had been forced. They made very large leafage and the crop was enormous, but at the beginning of the ripening period a large portion rotted. I should recommend planting this kind wider apart or growing it on somewhat poor, firm ground in shut-in gardens.—J. CROOK, Forde Abbey.

A new Strawberry—Prolific.—At the July meeting of the Royal Horticultural Society several new Strawberries were tested, and a unanimous award given to a new fruit named Prolific. The variety in question is the result of crossing British Queen with Empress of India. The former with me (with many others also) is none too prolific, but immense trusses of fruits and plants also of the new variety were sent to show its free cropping, and it certainly was well named. The quality was so superior, that the committee took it as a standard to test others by, and this is certainly a high commendation. I am aware in some soils Strawberries differ greatly. Some do well, others fail, but those who succeed with this need not trouble about British Queen, which it much resembles, except that it is brighter in colour and ripens to the point, and cropping so freely will be a grand addition to the mid-season kinds.—G. WYTHES.

DESTROYERS.

SLUGS.

IN most gardens slugs are very troublesome in spring and early summer, eating up the young seedling plants. In moist localities they are more of a nuisance than where the soil and situation are drier. The kind of soils most favourable to the increase of slugs are also those best adapted by nature for carrying out the methods of cultivation most inimical to slug life, and at the same time aid in increasing the fertility of the land. Loams, and loams inclining to clay, in wet localities almost invariably carry a large number of slugs, and to keep them under should be the aim of the cultivator. The first step in this direction is to have a homogenous arrangement in the garden, in order that a large piece of ground can be dealt with in autumn and early winter. This having been arranged, a trench 2 feet wide and 2 feet deep should be taken out at one end of it immediately the crops are cleared, and the whole vacant space turned over to this depth and ridged. Manuring for the following year's crop can be done as the work proceeds, but except for Carrots, Parsnips, and other deep-rooting root crops, it should not be placed in the bottom of the trench. Rather the top spit should be put in the bottom, then the layer of manure, and on the top of this another spit ridged. By treating the land in this manner all or most of the slugs will be got rid of. Of course there are usually borders to the vegetable quarters, and these are not infrequently filled with fruit trees, bushes, and perennial plants of one kind or another, so that a margin of soil as well as the Box and other edgings form a nucleus in which a few slugs will be able to survive the winter. When the borders contain Carnations, Sweet Williams, &c., it will be found that slugs will make use of them for protection during the winter and spring months. Air-slaked lime is the best antidote for them in such quarters. Pass the lime through a quarter-inch sieve before using it. It will be necessary to lift the growths of Sweet Williams, Carnations, &c., to get at the slugs with the lime. The lime will only kill the slugs at the time it is applied; therefore a good dressing ought to be given to make a fairly clean sweep of the pests. A fair amount of lime should also be dusted into Box edgings when they are small. In spring and early summer, when the crops are being put out, some sifted lime should be kept ready for the first damp night after a period of dry weather and sown broadcast over the land as late in the evening as possible. By taking advantage of an opportunity like this to clear off the slugs, I have had comparatively little trouble with them. In wet times three dressings on consecutive nights will get rid of the majority of the slugs. There are no good results from putting down lime during the day so far as keeping off slugs is concerned, for the moisture in the atmosphere soon combines with it and forms a crust on its surface, over which the slugs pass with impunity. Frequent hoeing checks slugs, closing up the holes in the soil in which they take shelter.—J. RIDDELL.

—Some years ago, says Mr. W. B. Mynors in the *Field*, finding the Strawberries, Lettuces, &c., to be almost uneatable owing to a plague of slugs, I tried various plans, and decided on placing small lengths of old decaying boards, say 5 inches or 6 inches wide and 15 inches to 18 inches long, between the rows of Strawberries and seedlings. Poplar, Alder, Elm or Ash are preferable to Fir woods. In one small patch of a garden, for the first three years, I destroyed an average, roughly counting, of

about 18,000 in a season; now some 300 is the outside, and my Strawberries, &c., are untouched; 100 pieces of wood, after being down three days, after a wet night, produced about sixteen slugs each; a boy, basin in hand, duly collected the 1600 slugs, and with a little fresh soot, lime, or boiling water soon destroyed them. The numbers speedily were reduced, and out of about thirteen sorts of slugs or snails which abounded in this garden only six are now to be found, and in very reduced numbers. An abundance of thrushes has greatly helped in getting rid of our shelled enemies, and I here and there have an unsightly stone, soon well polished, to crack them upon. One day I placed two bits of board on a small bare patch of ground of about 5 yards square; on lifting them I had forty-four slugs, next time twenty-two, then eleven, afterwards one only, nor did any trace of any remain. The spawn of some slugs is to an experienced eye almost as visible as mustard, and, surely, any careful digger can duly account for them. I have also been very successful in reducing beetles, ants, and mice to a minimum.

Getting rid of ants.—C. H. Fernold, of the Massachusetts Experiment Station, recommends the following: Make holes with a crowbar or convenient stick from 6 inches to 1 foot deep and about 15 inches apart over the hill or portion of the lawn infested by the ants, and into each hole pour two or three teaspoonfuls of bisulphide of carbon, stamping the earth into the hole as soon as the liquid is poured into it. The bisulphide of carbon at once vaporises and, permeating the ground, destroys the ants but does not injure the grass. One should remember while using this substance that it is highly inflammable, and no flame, not even a lighted cigar, should be brought near it.

GARDEN FLORA.

PLATE 1183.

THE ALMOND AND ITS VARIETIES.

(PRUNUS AMYGDALUS.)

(WITH A COLOURED PLATE OF P. A. FLORE-PLENO.)*

WITH the exception of the comparatively new Chinese Peach (*Prunus Davidiana*), the Almond is the first of the great *Prunus* tribe to come into flower in early spring. Its earliest flowering variety (*persicoides*) is generally in bloom in the metropolitan district by the beginning of March, and sometimes by the middle of February. From those dates well into April the Almond furnishes one of the most conspicuous and beautiful features of our gardens. It was naturally a tree that would attract the notice of the early travellers in the south of Europe, the Levant, &c., both for the beauty of its flowers and for the value of its fruit, and it does indeed appear to have been one of the earliest introduced of foreign trees. The precise date of its introduction is not known, but it was in cultivation in this country at least 360 years ago. Like the Peach, the Persian Lilac, and other plants that have from time immemorial been cultivated in Oriental countries, the true native country of the Almond was for a long time uncertain, and it seemed to have disappeared in a truly wild state. It has, however, been found undoubtedly wild in the mountains of Algeria during recent years. Like all plants that have been under cultivation for centuries past, the Almond has developed several varieties, although, regarded as a flowering tree, it has not varied to the same extent as many others. It is different, however, where it is cultivated for its fruits. In the south of Europe,

* Drawn for THE GARDEN by H. G. Moon. Lithographed and printed by J. L. Goffart.



for instance, there are dozens of fruiting varieties grown. In its ordinary form the Almond in this country is a round-headed, spreading tree, 20 feet to 30 feet high. Its branches are rather open and its leaves are lanceolate, of a lustrous green, and toothed at the edges. The flowers are each $1\frac{1}{2}$ inches to 2 inches across, of varying shades of rose, occasionally so pale as to be almost white.

In planting the Almond it ought to be remembered that it is leafless at the flowering time. Some situation where there is a background of dark-leaved evergreens ought if possible be given to it. A group which has always struck me as being the most happily placed of any I know consists of some five or six trees planted on a lawn in a sheltered bay formed by Hollies and Evergreen Oaks. Whilst being perfectly hardy, the early-flowering habit of the Almond renders shelter acceptable and natural. It likes a warm soil that is well drained and fairly rich. It is propagated in this country mostly by budding on the Plum stock. Budding appears to be a necessary evil in this case, not only for the perpetuation of named or good varieties, but even for the common one, which is said to be, on its own roots, more particular as to soil and less easy to transplant. Seedlings are, of course, much longer in reaching the flowering state.

The following are the chief named varieties cultivated here for the sake of the flowers:—

PRUNUS AMYGDALUS AMARA (Bitter Almond).—This is one of the finer forms, its flowers being somewhat larger than ordinary, darkest in the centre, almost white towards the tips of the petals. This variety produces the Bitter Almond of commerce, which is used for flavouring confectionery, &c.

P. A. DULCIS.—The flowers of this—the Sweet Almond—do not differ materially from those of the Bitter Almond, although they are usually earlier. The two varieties are so closely allied, that seeds of the one will produce trees of both kinds.

P. A. FLORE-PLENO.—This, which is charmingly portrayed in the coloured plate, is a distinct improvement on the type; the flowers by the doubling of the petals last longer in beauty and are more showy, and at the same time have lost none of their gracefulness. The colour is a deep tender shade of rose. It has been in cultivation at least seventy years.

P. A. MACROCARPA.—This is one of the old varieties of the Almond and is included in Duhamel's list, made early in the century. It is, perhaps, the most vigorous of all the varieties, having larger leaves and flowers than any other. A coloured plate of this variety was issued with *THE GARDEN* for October 17, 1896, and by that it will be seen that the flowers are over 2 inches across. It is of more erect and less spreading habit than the common Almond. With the exception of the variety *persicoides*, this is the earliest flowering of the Almonds.

P. A. PERSICOIDES.—We have at Kew two plants of this variety that have for some years past flowered at least a fortnight in advance of the typical Almond. In 1897 they were in bloom early in March, but this year they were fully in flower by February 12. Although little known in gardens, the variety is an old one, the name being included by Duhamel in his list of Almonds. It has been suggested that it may be a hybrid between the Almond and the Peach. The flowers do not differ from those of the common Almond except in their precocity.

P. A. PENDULA is an interesting form with drooping branches.

The older catalogues mention a variety with variegated leaves. I have not yet met with it, and possibly it has disappeared from cultivation. Unless it differs from the majority of variegated *Prunuses* (which are mostly mere

rubbish), this will have proved no great loss. Besides the varieties mentioned above, which are of interest to us merely as flowering trees, there are, as already stated, many others cultivated in warmer climates for the qualities of the fruit. These are known by colloquial names, and are of no importance in Britain, where the Almond is cultivated for the flowers alone.

W. J. B.

THE WEEK'S WORK.

FRUIT HOUSES.

MELONS.—Those plants which were turned out of pots the first week or so in July have in my case made the best possible progress. Everything certainly has been in their favour; warm, sunny weather, a steady and genial bottom-heat (from manure and leaves only), combined with a free amount of atmospheric moisture and sufficient warmth in the pipes to prevent any harm or check from a rather low morning temperature (the nights have been occasionally quite chilly) have all worked out thus far good results. Nearly all of the crop is now set, many swelling away freely, these being thinned down to two, three or four to each plant as the vigour of the plants happens to be. Size at this season is all-important for the supply, hence a heavy crop is not so desirable. By maintaining the temperature at an average of 72° at nightfall, I hope to have the earliest ones ripe the first week in September. Preparations are now being made (August 6) for an additional lining of manure on the inner side of the bed, precautions being taken against using rank manure so as to engender steam. Upon this added fermenting material more soil will be placed and a very slight surface-dressing only upon the present roots for fear of raising the bed too high near to the stems. Stopping, tying and fertilising have had to be daily attended to where grown on a large scale. The first is done sparingly always, where possible, by pinching with the thumb and fingers (to let the shoots get large enough for a knife is decidedly bad practice). As the plants have plenty of room to run upwards they are not stopped until a length of 4½ feet has been attained; thus treated there is ample foliage to do its share in the perfect development of the fruits. Tying is done carefully, the shoots being kept on the underside of the trellis so that the wires can do no harm with slack ties. During fertilisation a rather drier temperature is maintained, with extra warmth in the pipes if the weather happens to be dull or damp. As soon as the fruits have attained from one-third to half of their size, the Melon nets will be got out and secured to each fruit, but not any too tightly. These nets are infinitely better than either the old fashioned roundish tin painted green, the antiquated piece of board with holes, or the cross of raffia. As a precaution against red spider, near to the piping a dusting of sulphur has been puffed lightly upon the lower foliage. When the fruits are well advanced, there will be but little need of either thinning or pinching the shoots. The object should rather be that of retaining the foliage to assist in taking up the moisture from the soil, and then imparting in return quality and flavour to the fruits in their later stages. As soon as indications of colouring appear, be more cautious in regard to watering, but do not withdraw it completely, as some are disposed to recommend. The quality of the soil has, of course, to be considered; if it be heavy and clayey it will, of course, be more retentive of moisture.

LATER CROPS.—To deal with these successfully there must not be any check in the growth now. On the other hand, take advantage of all available warmth by closing early so as to hasten the growth and secure a good set by the first week in September if possible. If the fruits are not well advanced by the beginning of October they have not nearly so good a chance of developing their

flavour. It should be borne in mind that ripe fruits of the best keeping kinds, of which Hero of Lockinge is an admirable example, will keep considerably longer in October than during warm weather in August or the early part of September. The keeping of such fruits is more to be recommended than the forcing of the same to maturity with atmospheric conditions none too favourable.

LATE FIGS.—Late varieties, as *Negro Largo*, now swelling up their fruits will require every encouragement. Do not be deluded into keeping them too cool, by which means the fruit will never swell up so freely or well, thinking thereby to successfully retard the ripening. If kept too freely ventilated I have found that a semi-ripening process of the wood takes place, which afterwards does not act beneficially in the ripening of the fruit. If, however, the latest batch of pot plants were retarded as long as it was safe to check them in the spring, there will not now be much need of keeping even the latest of these at all on the cool side. Pot plants for late as well as for early forcing are decidedly preferable, being more easily managed in every sense. After the middle of September the second crop in late houses even will be ripe or nearly so. Then the late pot plants will take up the succession, and continue it for some weeks longer. Do not now permit any further extension of wood growth, but stop the shoots so as to force up the embryo Figs on the latest plants. The latest known reliable variety, viz., *Nebian*, or *Grosse Verte*, is decidedly later than *Negro Largo*. It is this I am now alluding to chiefly as regards stopping, but it also refers to late sappy shoots of *Negro Largo* as well. *D'Agén* is the latest Fig of all by repute, but so far I have not been able to give it a fair trial. Figs in pots now bearing good crops of fruit will be benefited greatly by occasional doses of weak manure water from the farmyard, whilst as an alternative some tried artificial manure will be beneficial. Take care for the present whilst the fruits are swelling that the plants do not become dry at the roots, but rather keep them well watered. Later on when ripening this treatment will have to be considerably modified. Watch closely for any symptoms of red spider and also of scale and act accordingly; a good remedy for the destruction of these plant pests is to be found in *XL All insecticide* (not vaporiser). For mealy bug it is also efficacious, but in that instance needs to be used somewhat stronger.

EARLY FIGS IN POTS.—By this time this stock should be well advanced towards a thorough ripening of the wood. Some plants may have already cast their leaves, but even if this be the case it must not be taken for granted that the wood is well matured. In every case it will take longer to do this properly. I still have the stock of early pot Figs under glass. Being in a house that is well ventilated, I prefer to keep them there rather than outside just at present. If exposed in the open and not protected at the roots rather more water than is desirable has to be given them, whereas inside this is not the case. Some of the plants will soon have shed their leaves; when this is seen to be general, the plants will be stood in the open. Meanwhile, no sudden check to cause the foliage to fall will be allowed. In a fortnight I hope to have them standing in a warm, sunny position, with a board placed on the most exposed side and wide enough to protect the pots from too much sunshine. Here they will stand until the end of September. In the meantime, if any of the plants really appear to need a shift, it will be given them, but most of this work was done some time back, as then noted. It can, however, be done in the case of *St. John* and *Pingode Mel* with safety when the foliage has fallen (some other kinds will at times cast their first crop if then disturbed at the roots). The real value of these two early forcing Figs does not even yet appear to be fully appreciated in private gardens. In repotting, be careful to guard against too large a shift; one size larger of pot is ample, a steady progress with Figs being much better than a rapid one with a tendency to non-fertility if the wood be too luxuriant. Perhaps, too, we should

hear less about the disease (fungoid) of which we have heard recently if over-exuberance of growth was kept in check with the wood tissues more hardened.

FIGS PLANTED OUT.—Early forced plants of these should now be well advanced towards a ripening of the wood, otherwise they will not be so reliable for early forcing another season. If need be, some fire-heat should still be afforded to trees which have made a free, luxuriant growth, but with abundant ventilation at the same time. Let the leaves all fall naturally, it being better to at once thin out super-abundant growth rather than merely strip off the foliage indiscriminately. Continue to syringe once a day or so if any red spider be apparent.

LATER FIGS.—These will be still bearing a crop of fruit, possibly the latest of the first crop in very late houses, but more likely the second crop, the fruits not yet having completed their second swelling stage prior to ripening. In any case it will be advisable to still allow a little warmth in the pipes, provided a fire is not kept alive on purpose; it will be found to add flavour to the fruit as well as being better for the trees themselves. When no fire-heat is given to late Figs planted out at this stage, it certainly should be considered in a month's time, when perhaps it might be done with more convenience. In dealing with houses newly planted, or where the trees have not as yet filled their allotted space, a caution is necessary not to encourage much more growth now, otherwise it will not be ripened by the time the leaves fall. By cautiously keeping the borders a little drier a steady check that will be scarcely perceptible may be given to the trees, yet the object in view will be accomplished all the same in good time. HORTUS.

KITCHEN GARDEN.

MULCHING AND WATERING.—With but little rainfall many of the autumn crops will suffer if not mulched. I have found old spent Mushroom manure excellent for the purpose. Peas and shallow-rooting crops will feel the effects of drought, but a mulch and a thorough watering weekly will keep them going. Runner Beans will fail to pod freely unless given liberal supplies of moisture, as having a lot of foliage it is impossible for light showers to reach the roots. Cauli-flowers will fail to make heads if the roots are dry. The plants will be benefited if litter can be laid over the surface soil. I find liberal supplies of liquid manure may then be given, and the plants are much freer of caterpillars treated thus. There will be a difficulty in keeping newly-planted crops going, and whenever possible a thorough watering at night once or twice a week should be given. Beds of seedling Cabbage should not suffer from want of moisture, and if the seeds are not germinating freely it will be well to make a later sowing in case the stock of plants is small. Cardoons will need much moisture, as unless this is given they will bolt badly. Food also in the shape of liquid manure should be given freely.

WINTER ONIONS.—From the 15th to the 20th of this month is a good time to sow the above. By the term winter Onions I mean the Tripoli and Giant Rocca varieties, and though I am aware any of the other kinds may be sown, as they are quite as hardy as the kinds named, they do not turn in so quickly, and Onions in the early summer months are valuable. One of the first to bulb is the Leviathan White Tripoli. This is much earlier than the Rocca section. Early White Naples is an excellent variety, mild in flavour, and fine for autumn sowing. Of course, these types do not keep long, neither are they needed for keeping, as the spring-sown will be harvested for the store. In some soils spring-sown Onions do not do well, and here more attention may be paid to sowing at this date. Plants put out early next spring will not be injured like the smaller seedlings sown in February or March. I prefer sowing these late in August to escape the attack of grub rather than in heat or under

glass some four months later. If the soil has been well manured for a previous crop it will suffice, as what is needed till next March is a sturdy growth. Manures in a liquid state or as surface dressings may be given when growth is active early next spring. Many growers transplant the young seedlings. I transplant a portion, leaving the others, these being the earliest to mature, but they do not attain the size of the bulbs put out in rich soil. I would advise a good space between the rows, this allowing of thinning and cleansing. Thin sowing is necessary, as Onion seed rarely fails to germinate freely. If Onions are grown for salad they may be sown thickly, as they are drawn early, but constant drawing from beds needed to stand the winter loosens the plants, and they do not then stand severe weather. An open position is the best for the Onion quarter, as I find plants well exposed superior to those on a sheltered border. My seed is now being sown on land cleared of summer Spinach. The soil being light, it is merely hoed over and then well trodden or rolled to get a firm hold for the plants. I find I obtain much better results from firm land. I admit the size may be less than one sees in the huge prize Onions, but these are not needed for home supplies.

SPRING-SOWN ONIONS.—These are quite a fortnight later than usual, but it will be well to harvest them before the rains begin, as if the bulbs start into new growth their keeping qualities will be impaired and no amount of care will bring them into condition. I have just gone over the beds and bent down any thick-necked plants that would be long in ripening, and others that are fully matured have been pulled and laid thinly to harden. It is an excellent plan to lay on racks or stages, as this allows any moisture to escape freely, and in damp weather, if room can be found in a cool house, so much the better, as they so soon decay if at all thick and damp. It will be advisable to frequently turn them over, to expose all parts of the bulbs. Later on I find it best to rope those needed to be kept till next spring. If suspended in a cool shed they keep well, and the tying may be done in wet weather. Land which has produced the Onion crop will be in condition for the Cabbage seedlings. This will not need food or digging, merely cleaning the surface. Onions grown for seed, if not given strong supports, will twist and break, as the flower-heads are heavy.

MAIN-CROP CABBAGE.—I have previously advised on the spring crop, and now would give brief advice as to what may be called summer or main-crop Cabbage, as where there is a large demand I find it advantageous to have a late supply. There is no lack of varieties, and such kinds as Maincrop, Imperial, and Favourite are splendid types of summer Cabbage. They are not so large as Enfield Market or Early Offenham, both very fine varieties and great favourites in market gardens, but for a private garden a large Cabbage is not so much needed. Seedlings raised now may be planted out at the end of October or left till February. I plant out a small portion and prick out a goodly number into rows 6 inches apart. They winter well thus, and another planting is obtained in March from the seed-beds. I have in severe winters seen these all destroyed, while those pricked out have been but little injured. It is important to sow thinly if the plants are left in the seed-beds, as if at all close they get drawn and lack roots. Now is a good time to sow Red Cabbage for pickling. Dwarf Blood Red is a small grower and of good quality. The Red Dutch is larger and not so early. In sowing at this season it will be well to have well worked and manured land, as the season of growth is none too long.

COLEWORTS AND WINTER CABBAGE.—Now is a suitable time to plant out a good breadth of Coleworts for October and November use, and with a mild autumn the supply may be kept going till Christmas. Coleworts to do well need a rich soil, or at least the manure near the surface, as the plant must make its growth in a short time. For the season named I advised the Rosette variety,

and this planted rather closer than Cabbage will well repay for ground occupied. Planting will now be difficult should the heat and drought continue, but it will not be well to delay the work. It may be facilitated by drawing drills, filling these with water previous to planting. For mid-winter supplies—indeed, well into March—I rely upon a good breadth of St. John's Day and the Christmas Drumhead. The former is the earlier. Christmas Drumhead is not injured by the weather, having a dwarf stem and a hard Drumhead-shaped heart. It is a splendid Cabbage for late winter use. These take up less space than ordinary Cabbage, having few outer leaves. They do well planted in an open position in rows 18 inches apart and 15 inches between the plants.

LATE BROCCOLI.—I have just cleared the latest quarter of Strawberries and have planted the same with late Broccoli, having made a sowing late in May specially for late planting. In hot weather it is well to puddle in the plants. I draw rather deep drills and fill these with water before planting. Plants put out now cannot make the growth of those planted a month earlier; on the other hand, these frequently pass through a severe winter when the larger ones are destroyed, and being planted rather deep they have no stem exposed. I do not get such large heads from this late lot, but they are quite large enough for use; indeed, they are appreciated more than large ones. This lot of plants will do well at a distance of 2 feet between the rows and 18 inches between the plants; indeed, if ground is scarce 18 inches each way will suffice.

TOMATOES ON WALLS.—The season of late has been most favourable as regards the ripening of the fruit; but earlier, owing to the cold nights, there was but slow progress, and this caused later flowering. Unless the plants have been kept closely trained to the wall fruit will be late in maturing. All lateral growth must now be kept closely stopped, as from this date the fruits which set will not have time to swell. The grower will do well to hasten the crop that is now set, and to do this it will be necessary to pinch out the points of the leading shoots and to give food freely in the shape of a fertiliser, or, what is better, liquid manure. With gross plants, feeding is not needed. Here more light will be beneficial. I am not in favour of cutting away too much growth at one time. Far better go over the plants weekly and induce a firmer growth. Many growers remove all the leaves, only leaving the bare stems. This is not a good plan, as the fruits often become badly spotted or decay at the centre, and scald also in hot weather. A portion of the leaf may be cut away, but sufficient should be left to cause an equal flow of sap all over the plant. My best outdoor Tomato this year is Conference, both for cropping and quality. S. M.

ROSE GARDEN.

ROSE CULTIVATION UNDER GLASS.

The varieties of the Rose most commonly cultivated in this way are Maréchal Niel and La France, next Niphetos, Lamarque, Gloire de Dijon and some others, but to a much less extent. Souvenir de la Malmaison is cultivated in cold frames, or partially so, being very gently warmed at night, and that only at the time when the most of the buds are half developed, the ventilation by day being thorough and not attended with danger, owing to the climate. Among hybrids the most in vogue are Paul Neron, La Reine, Anna de Diesbach, Souvenir de la Reine d'Angleterre, Baronne de Rothschild, &c. In the middle of the house are Carnations, Rose Souvenir de la Malmaison, and even hybrids. The association of dwarf plants in the middle of the house is not, however, to be recommended, because, being too far from the glass and receiving only so much of the light as finds its way through

the spreading branches of the Rose bushes, the flowers are always of second-rate quality. A far better way is to utilise the floor of the house for a plantation of spreading Rose bushes of the same variety as those that occupy the sides, the plants being tied to a low trellis. Rose bushes uncovered during the summer and entirely unwatered, and suffering in consequence from excessive drought, have passed through their normal period of rest for that region. The conditions of climate in fact do not admit of outdoor growth until the end of September, according to the arrival of the first rains (these being absolutely *nil* from May to September) which, outdoors, makes the time of bloom about mid-November. Remunerative culture without glass protection does not aim at producing blooms at this period when Roses are abundant outside, but at delaying the time of flowers until mid-January and to the end of March.

Two means are at the disposal of the grower in securing this result. The first and least effective is to commence watering from the end of September in order to hasten the growth and admit of pruning at the same season, the object being to obtain a first bloom in the months of November and December. The pruning caused by the gathering of the buds causes new flowering shoots, which bloom a second time from January to March, given the aid of moderate artificial heat.

Another method which resembles the preceding, in so far as regards the time of growth and pruning, is to suppress a portion of the flowering shoots when the buds have already made considerable progress, the object being to drive the sap back to the eyes of the base, and thereby delay the blooms. The bad points of these two methods are that they provoke a first bloom at a time when Roses are cheap, and exhaust the bush without profit to the grower and prejudicially to the beauty and abundance of the second bloom, when Roses are scarce, and consequently fetch much higher prices. The second method, which is much preferable to the other, is to prolong the period of repose and delay pruning until about mid-November, watering copiously, with the object of obtaining a single blooming season, but much more abundant from January to March.

In order to prolong the period of rest, special glasshouses of, however, very simple construction are indispensable, the only way to delay the vegetation being to preserve the roots of the bush from all contact with damp. For this purpose the top sashes are lowered before the arrival of the first rains. The glasshouses adjoin, that is, the very narrow spaces between are sheltered by boards covered with zinc and nailed to the abutment posts of each house, thus forming gutters for carrying off the water which comes from the spouts at each end of the glasshouses. This arrangement is absolutely indispensable, for without it the major portion of the Rose roots, being outside the shelter, would be as much exposed to the rainfall as they would if the glasshouses were uncovered, and premature vegetation would be the result, and the object, which is to prolong the period of rest, would be defeated. It is true that in this case the eyes at the summit of the shoot would alone develop, but at the time of pruning the sap would be driven back, which is always prejudicial to good growth and causes the drying up of a certain proportion of the sap, to the detriment of the blooms.

The method above described of arranging the glasshouses is not always followed, and many growers along the Mediterranean coast have made up their minds that the produc-

tion of Roses at a fixed season is materially impossible, basing their opinion upon the characteristic points of the climate of that region. It is a fundamental error, because the failures are solely attributable to defects in the construction of the glass shelters.

The Rose *Souvenir de la Malmaison* is as a rule grown in frames. Treatment the same as that used to delay vegetation is applicable in the cultivation of spreading Rose bushes. Given a very moderate artificial heat and plenty of air, they generally adapt themselves better to two successive blooming periods than those of the other class. It is better not to have more than one season of fine bloom, namely, January to March, than to exhaust the plants by a first bloom in November, when, as I have said, Roses are abundant outside. As yet few growers have devoted themselves to the regular forcing of hybrid kinds, which demand the same conditions of culture as those just described, excepting, of course, the two successive seasons of bloom from the same plants, which is not to be thought of in these sorts of Roses. But in regard to hybrids, the climate of the coast region lends itself admirably to regular forcing, as permitting with equal ease the production of as good blooms at Christmas and New Year's Day as are to be had in northern regions at the end of March, that is, be it well understood, if the time of rest is properly observed.

It is superfluous to add that, whatever the sort of Rose cultivated, copious manuring is indispensable. Farmyard manures largely supplemented with phosphate and lime are generally those which produce the best results, especially in granitic soils, from which these two elements are absent. Rules as regards manuring are difficult to lay down with any good result, as the needs of the plant and the composition of the soil have always to be taken into account.—G. VRAY, in *Le Jardin*.

HYBRID TEA ROSES.

No one twenty years ago would have ventured to predict such a remarkable popularity as the above tribe possesses at the present day, nor have dreamt that the mingling of the Teas and Hybrid Perpetuals would have yielded such a glorious harvest. But the fact remains, and every season brings these beautiful hybrids into greater prominence. It matters little to the lover of garden Roses whether the Hybrid Teas are classed separate at exhibitions or with the H.P.'s. Suffice it that such charming kinds exist. It is commonly admitted that *La France* was the first Hybrid Tea, and it is very remarkable that such a grand Rose should be raised without the aid of artificial hybridisation. That it is a hybrid is, I think, abundantly clear. There is much of the China in this lovely Rose, but M. Guillot was entirely ignorant of its origin. If such a Rose could be obtained by chance, one cannot help thinking that the French raisers, with their glorious climate so well adapted to seeding Roses, have allowed golden opportunities to pass, when they might have obtained by artificial aid many striking novelties that would have equalled, if not surpassed, the accomplished efforts of our own countrymen. It is cheering to know that Mons. Pernet-Ducher is working in this direction, and the results attending his endeavours have been so far entirely satisfactory. The production of such beauties as *Caroline Testout*, *Mme. Abel Chatenay*, *Marquise Litta*, and others go far to prove this statement. *La France* was introduced in 1867, and we had to wait seven years ere *Captain Christy* and *Cheshunt Hybrid* appeared. The former is as popular to-day as it was twenty years ago, but the latter, although a useful Rose, is heavily

handicapped by the dull colour of its expanded blossoms. Another four years elapsed before *Mme. Alexandre Bernaix* appeared. This was a good Rose, if somewhat flat. The next year (1878) witnessed the introduction of *Mr. Bennett's seedlings*. These were a very disappointing lot, but their introduction was soon to be atoned for by the magnificent varieties that followed from the same source. *Reine Marie Henriette* was also of the same year. The year 1882 gave us one of the best decorative Roses we possess, namely, *Camoens*, also *Lady Mary Fitzwilliam*, a variety that has laid the foundation for so many later novelties. Another Rose of the same year, *Countess of Pembroke*, is not to be despised, and is far superior to many that we have recently seen obtaining gold medals. The next year (1883) gave us *Grace Darling*. It is a charming Rose, so strong in growth, as hardy as a *gallica* variety, and delightful in colouring, but somehow when cut the beautiful tints quickly fade. The following year we were given *Gloire Lyonnaise*, and in spite of many rivals it remains the best lemon-white variety for garden decoration. *Waltham Climbers No. 1* and *No. 3* followed in 1885. The former is still the brightest crimson climbing Rose, possessing beauty of form and vigorous growth, and the latter a darker shade with lovely recurved petals and deliciously scented. This year also produced the marvellous *Her Majesty*. For the exhibitors it remains a standard variety, but the flowers are generally considered too coarse for garden or room decoration.

Viscountess Folkestone, which I have heard described by some as the most lovely of all Roses, was first seen in 1886. *W. F. Bennett*, one of the sweetest of Roses, and *Mme. Joseph Desbois*, together with the glorious rampant *Rose Olga de Wurtemberg*, were given to the public the same year. *Mme. Germaine Caillot*, which now and then is seen in most beautiful condition, was the outcome of the year 1887, as also was *The Meteor*, which I believe was given away by *Mr. Bennett*, so little did he value it. A grower in America, however, has a far different opinion of it, for he declared quite recently that all other Roses might go so long as he was allowed to retain *The Meteor* as a crimson forcing variety. *The Puritan* was another Rose of the same year; it had, however, a very short existence; but another variety, *Bardou Job*, is still looked upon as one of the most beautiful of semi-double flowers. *Duchess of Albany* appeared in 1888, and the lapse of ten years has not diminished its popularity. In the forcing house one would take it for a crimson variety, so very intense in colour are its fragrant blossoms. *Comte Henri Rignon* and *Souvenir de Wootton* were introduced this same year. The former is of stumpy growth but highly decorative, being a perfect sheet of bloom when fully out, but the latter is too dull in colour to be considered worth a place, although it is remarkably free. In the year 1889 we had *White Lady*; magnificent in the highest degree are its blossoms, and this season has seen it in wondrous splendour. The white *La France*, a real beauty and so grandly decorative, also *La France de '89*, a fine Rose, which has undoubtedly suffered from its ridiculous name, were also introductions of 1889. The next year (1890) will long be remembered for one of the most beautiful Roses of any year ever sent out. I refer to *Caroline Testout*. I question if any Rose has obtained such unstinted praise as this variety. The raiser, *Mons. Pernet-Ducher*, gave us the same year the long-budded *Gustave Regis*, and other fine continental varieties were *Marquise de Salisbury* and *Triomphe de Pernet père*. *Pink Rover*, a fragrant pink climber, and *Danmark* must also be included among this same year's productions. The year 1891 was also remarkable, and this time our German neighbours scored heavily with the introduction of *Kaiserin Augusta Victoria*, a variety of equal individuality as *Caroline Testout*. The pretty *Mme. Pernet-Ducher*, the grand decorative *Grand Duc de Luxembourg*, the very distinct *La Fraicheur*, together with lesser lights, such as *Mme. Joseph Bonnaire*, *Baronne G. de*

Noirmont, Progress, and Augustine Halem, were also introduced in 1891. The next year nothing very remarkable appeared. Lady Henry Grosvenor was of this year, but it is a Rose better adapted for indoor than outdoor culture. Marquise Litta was, perhaps, the best of 1893. It certainly is a lovely Rose and of a most pleasing shade of colour. Germaine Trochon will yet make its way, for it is a good grower, with bronzy yellow flowers, and Mme. Jules Finger is a very double white seedling from Lady Mary Fitzwilliam. Hippolyte Barreau, although not very remarkable in colour, has the free-flowering propensity of the tribe, and Princess May is a delightfully fragrant climbing Rose, with the most perfect globular-formed flowers I know, and Mme. Joseph Combet would be grand if its flowers expanded better. I think the palm for real beauties must be awarded to the year 1895. What a grand array! Mrs. W. J. Grant, Mme. Abel Chatenay, Souvenir du President Carnot, Souvenir de Mme. Eugène Verdier, Charlotte Gillemot, Clara Watson, Princess Bonnie, Rosamane Alix Hugier, and Josephine Marot are Roses of the greatest excellence. The following year was not quite so productive, but two first-class novelties appeared, Antoine Rivoire and Beauté Lyonnaise. The former fully sustains the good opinion formed of it upon its introduction. It marks a distinct break in Roses, as it has Camellia-like form, which is very welcome, if only on account of the novelty. Other good kinds of this year were Helena Cambier, Marjorie, Souvenir d'Auguste Mestral, Alice Furon, and Rosette de la Legion d'Honneur, a charming semi-climber, every long shoot flowering at the points and producing the sweetest formed buds imaginable. Of the productions of 1897 I must speak with more reserve, but I have seen sufficient of Madame Cadeau-Ramey and Mme. Jules Grolez to satisfy myself that they have a great future before them. Ferdinand Jamin is good, but does not surpass Mme. A. Chatenay. Ferdinand Batel has a glorious orange shading. Countess of Caledon I cannot say much for; it lacks brightness of colour. Margaret Appert will, I believe, be in much request; so also will Gruss au Teplitz for its very vivid cinnabar-scarlet colour. Ethel Richardson appears a very poor grower, and we certainly do not want any retrogression. Lady Mary Fitzwilliam is bad enough, and I think this matter of growth should be seriously considered before launching upon the world Roses of inferior constitution, be they ever so taking in colour or flower.

Of the novelties of 1898, the gem is certainly Aurora. The grand plants which secured the award of merit at the Temple show were sufficient evidence that this Rose has come to stay. The flowers are very large, beautifully formed, and of exquisite soft pink shade, and in addition to this have a very pronounced fragrance. M. Pernet-Ducher, to whom we turn for good Hybrid Teas, has sent us this year l'Innocence, Mme. Eugène Boulet, and Violoniste Emile Levéque, and as they have all three obtained gold medals in France, they must be varieties of no mean merit. Tennyson is very double and ideal in form, with the fine pointed outer petals of Maréchal Niel. Bessie Brown has been well shown, and altogether I think our home raisers are well to the front. We have room for all these lovely Roses, and if some rich crimsons and maroons are produced, say the colour of Louis van Houtte, with the habit and freedom of flowering of Viscountess Folkestone, they would receive a warm welcome, especially from growers who have other uses for their Roses beyond displaying them at Rose shows. P.

Good garden Roses.—One of the most surprising things in connection with the great Rose family is how really few of the H.P. kinds generally are good garden Roses, that is, creating a show and producing really good-sized blossoms also. Among specially good kinds recently noted Ulrich Brunner is deserving the highest praise, each and every plant of this carrying a full complement of blooms, quite dwarf bushes planted in autumn

bearing a dozen fine flowers, some of which came up to exhibition standard. A good feature among many in this fine Rose is the erect carriage of the blossoms. Equally good in its way is Lady Mary Fitzwilliam, a prettily-shaded flower, very full and pleasing to the last. Another fine kind is Captain Christy, a Rose that rarely fails to produce a good crop of handsome flowers in a soil that is moderately light and warm. In some respects La France is excellent, though the habit is not so uniformly compact as in the kinds previously mentioned. What is especially wanting where Roses are grouped for effect are kinds with good erect habit and short sturdy peduncle. Varieties weak in this respect are wanting in an important point, regardless of size, colour, &c. It is possible an experience on heavier soil would give widely different, though equally serviceable results, and if any reader of THE GARDEN can add a specially good dark Rose which is a success in light or heavy soils and possessing the above points of merit, such will be a welcome addition.

FLOWER GARDEN.

POPPY ANEMONES IN AN IRISH GARDEN.

THE accompany illustration shows a small portion of an Anemone plot, in size somewhat over a rood, which in the sunshine of an April day



Poppy Anemones in an Irish garden. Engraved for THE GARDEN from a photograph sent by Mrs. Laurenson.

seemed like a rich eastern carpet unfolded and spread forth on the hillside. The plot of ground is on a plateau more than 400 feet above the level of the sea. It is swept by all the winds of heaven, as, standing beside it, one can see the horizon from the time the sun rises behind the distant low-lying hills until it sets in the west, where the young plantations of Fir and other trees scarcely as yet appear to touch the sky. If Anemones like change of air they have it here in perfection, for there is ever a cool current, and frequently a strong blast, passing to and fro between Lough Neagh and the sea. The Poppy Anemones seem to prefer a stiff soil to that which is light and sandy. Moisture in the atmosphere and at the root they delight in, and as they find both without stint in the "North Country," they flourish there with according vigour.

The mode of culture adopted is to take any bit of fresh ground which has been previously cropped with Potatoes and vegetables, and having dug into it a good supply of cow manure, to sow the seed broadcast as early in the month of March as the weather permits, covering with some fine soil in which burnt earth or anything else has been mixed to lighten it and prevent the surface caking. Weeding is carefully attended to, for if the weeds attain any size their removal disturbs the growth of the young seedlings. Indeed, I think this is the main cause of so much failure in the outdoor sowing of Anemones; the weeds attain size so rapidly and the Anemones in their early stage grow so slowly, that when the weeds are pulled up the tender rootlets of the latter are shaken and the soil left so loose, that they perish in the hot sunshine unless water is constantly and freely supplied. The Anemones thus sown and cared for, and thinned out when large enough to handle to 5 inches or 6 inches apart, commence throwing up flower-heads in the month of September, and continue to supply blossoms more or less according to the mildness of the weather all through the winter. As the days of the new year increase in length, so do the blooms increase in abundance until the meridian of their beauty. And thus I saw them last April in their glory, with every petal flung open to the sunshine, while in the distant hilly background the Bracken was still sere and the grass yet brown and scorched from the fierce winds of March. In colour, they varied from the softest pink to crimson and fiery scarlet, and from pale lilac to rich purple and deep blue, with dashes here and there of pure white flowers and those with tips and rings of colour, the blossoms themselves each measuring from 4 inches to 6 inches across.

Now, when August gives us Roses and Lilies, the Anemones are forgotten, but in days to come they will be again precious. A. L. L.

LILIUM SUPERBUM.

THE Swamp Lily is one of the most vigorous of those species (all of which are natives of North America) which have peculiar rhizomatous bulbs. In *L. superbum* this character is especially pronounced, for when thoroughly established this Lily will push out a rhizome to an extent of perhaps 6 inches from the old bulb, and on the point of this rhizome another bulb will be formed, which will in its turn search for new quarters. While the connection between the old bulb and the new is usually totally devoid of scales, it is occasionally studded with small bulbs, which in their turn attain flowering size, till quite a mass or clump is formed. From 4 feet to 6 feet is usually given as the height of this Lily, but good established specimens will sometimes exceed this limit by nearly a yard. The leaves are very sharp-pointed and arranged in regular whorls around the stem, a considerable space generally existing between each whorl. In a vigorous example the elegantly reflexed blooms are mostly arranged in an almost perfect pyramid, and though in shape they vary but little, yet in the colour of the flower and the marking thereof a very great deal of difference occurs amongst them. A particularly deep-coloured form was figured in THE GARDEN, November 29, 1890. In this the flowers were of a bright crimson tint, with a few blackish spots towards the centre. Between this and the lightest-tinted form, represented by a pale yellowish flower, are innumerable gradations of shade and colour, some of the orange tints being particularly effective. The spotting of the flower, too, is just as variable, the size of the spots and the arrangement thereof differing more or less in almost every individual. While in the case of several Lilies we are inundated with varieties, in some of which

the name proves to be the principal distinctive feature, it is strange that varietal names are wanting in the case of the Swamp Lily, though there is a great difference to be found amongst them. This Lily is essentially a moisture-loving plant, but at the same time a swamp is not necessary to its well-doing. Some good examples are particularly attractive just now in the beds at the back of the Palm house at Kew.

H. P.

THE CLEMATISES.

SECTION III.—FLORIDEÆ.

(Continued from page 40.)

THE C. florideæ commence the series of large-flowering Clematis. In 1776 the "large-flowered" Clematis, so-called, made its first appearance. Probably this was only a variety of the Indian Atragene (*florida plena*). Granted, however, that the introduction of the variety and of the species *florida simplex* took place at the same time, still only the former came to be widely known in horticulture. As we shall see, it was not until half a century later, towards 1836, that *C. bicolor* Sieboldi became known in European gardens. Like the azureæ, the florideæ came to us from Japan, not Florida, as I have seen it stated in certain catalogues. They are allied to the azureæ, but there is a notable difference in the flowers, in the time of bloom, which is a little later, and especially in the evergreen foliage of the florideæ. There is a difference also in the leaf, which, instead of being simply three-lobed, is entire and hairy. The florideæ are delicate plants and have long been classed as greenhouse Clematises. They can, however, be grown in the open air in favourable situations, with light soil rich in vegetable mould. In ordinary winters in a temperate climate they retain their foliage. The following are three well-established forms under which the Japanese species group themselves:—

C. FLORIDA (Thunb.).—The single-flowered Clematis *florida* I have had some time in cultivation; it is seldom found in catalogues. This typical species is remarkable for its single milk-white flowers, which are of fair size and flat. I have never seen *C. florida simplex* in collections of the present day.

C. FLORIDA PLENA (Wild.), *Atragene indica* (Desf.), *Atragene florida* (Pers.).—The Indian Atragene of horticulture is still frequently met with. It is a summer-flowering plant, and the flowers, which are double, greenish white, last a considerable time. This variety is constant, but more curious than beautiful.

C. BICOLOR (Cels), *C. florida* Sieboldi (Hort. Belg.).—The bi-coloured Clematis of Siebold, as it is often called, is a very distinct and interesting variety if we consider it as not belonging to the species. Its first introduction was in 1829, along with *C. azurea*, to the Botanic Garden at Ghent, but until 1836-38 it was not much known in French gardens. In foliage and habit *C. bicolor* resembles the foregoing species, the essential difference being in the flower, which is double and bi-coloured. Encircled by a white collar of large sepals, the centre forms a corona of little violet petals, which impart to the flower a certain resemblance to the *Granadilla* or *Passion Flower*. These petals are stamens in process of transformation into brown-coloured exterior anthers; the interior ones continue with the pistils after the fall of the bloom.

The *C. florideæ* give a long and continuous bloom during the summer owing to the growth and the development of the branches. They may be pruned, but it will retard the bloom. In mild winters, when they retain their leaves, they start into growth early. Among the section of florideæ I place a charming and constant hybrid known for more than thirty years—

C. FLORIDA VENOSA (*Viticella venosa*, Hort.).—Its parentage is revealed by all the characteristics of the hybrid; the same carriage, divided foliage, flowers of like form, having five to six petals of a fine violet-blue with rosy, velvety, and iridescent tones. Hardy and prolific in bloom, *C. florida venosa*, after being long with me in cultivation, accidentally gave perfectly mature seed, which, sown in 1879, sprang up and gave birth to diverse products, of which I shall speak in treating of the hybrids.—DR. JULES DE BELE, in *Bulletin d'Horticulture de la Sarthe*.

(To be continued.)

A DORSETSHIRE STREAM-GARDEN.

HAPPENING to be on a visit in Dorsetshire during the early days of June, I was taken by my host to Minterne Abbey, where, by the courtesy of Lord Digby, I was enabled to inspect the charming stream-garden which has during recent years been formed in the grounds. Minterne Abbey itself, though distant but some fifteen miles from the sea, stands at an elevation of 600 feet above sea-level, while from the hill of High Stoy, scarcely more than a mile away, a panorama is unfolded that can be rivalled in few counties of England. Mile upon mile stretch the pleasant pastures, fertile and well wooded, until the light green of the grass is lost to view and the darker tint of the foliage of the trees alone is visible; this, again, under the spell of the intervening atmosphere, changes colour as it recedes from the eye and blue distances melt imperceptibly into the still bluer remoteness where, afar, the furthest hill-top cuts the clear sky-line. Approaching the house, a steep grass slope on the left falls into a deep valley, where shimmer the waters of a lakelet, dark by contrast to the snowy plumage of the swans that float on its still surface. On the further side the ground again rises rapidly, the silver-grey and fawn of the Jersey cattle intensifying the bright green tint of the grass, while the summit of the slope is fringed with noble trees. The walk to the stream-garden descends gradually between fine Beeches, the open spaces planted with Azaleas and Rhododendrons, interspersed with Lilies, while in the grass Narcissi are naturalised, and in the shadier spots Ferns flourish in profusion. Before the region of streamlets that intersect the lower level is reached, three lately-constructed rock gardens, enjoying varied positions of sunshine and partial shade, are passed, in which among the plants in bloom at the time of my visit were *Aubrietias* in variety, *Geums*, *Gypsophila cerastoides*, *Lithospermum prostratum*, and a number of *Saxifrages*, of which *S. lingulata cochlearis*, *S. nepalensis*, *S. Macnabiana*, and *S. valdensis* were conspicuous. Into the stream-garden, which not many years since was an Osier bed, many sparkling springs well out from where the abruptly sloping hills meet the gentler contours of the lower lands; one, rising beneath a Holly tree in a shady dell, whose steep sides are veiled with Fern fronds, spreads itself into a crystal-clear pool, whence, rippling with musical murmur into the sunlight, it meanders down among the flowers and foliage of the delightful wild garden that fringes its banks through many a curve. In this retreat the Lilies are evidently at home. The tall, slender shafts of *Lilium auratum*, on which the buds are not yet apparent, look the picture of health, while the sturdy flower-stems of the giant Lilies of the Himalayas promise many a coronal of vanilla-scented blossoms poised at a height that no other Lily may attain. Tall Mulleins with grey-green foliage are in flower, as are a host of Poppies, whilst the delicate

tints of the hybrid *Aquilegias* produce an exquisite colour-effect in their green setting, and Irises, *Ixias*, and the greater *St. Bruno's* Lily are blossoming. In one spot masses of London Pride and breadths of blue Forget-me-not create a charming picture, while here a colony of Solomon's Seal bends arching, flower-studded stems above the rivulet, over whose margin the crimson and gold of the *Mimulus* have in places encroached. Here the Japanese Primulas, rose-coloured and white, show, by their vigour and the abundance of their blossoms, their appreciation of the conditions by which they are surrounded. In the background a yellow Day Lily gleams against the crimson foliage of a Maple, and graceful form is expressed by slender Reed and grass or tapering Bamboo. Of these latter a walk was planted some four years ago, and the bright green foliage of the arching shafts evidences that their vitality has been unimpaired by the past winter, whilst the strong young growths, almost 5 inches in circumference, promise to exceed the stature of the mature canes by many feet. *Bambusa Simoni* has already attained a height of 15 feet, and between its swaying stems a suspended nest shows where the black-cap has reared its brood.

Flowering shrubs and trees are well represented in the stream-garden. There the Laburnums spread their showers of gold, Lilacs perfume the air, and Azaleas glow in scarlet, orange and yellow. The Snowdrop Tree (*Halesia*) produces its white bells and *Viburnum plicatum* its snowy bloom-trusses; *Weigelas*, *Staphyleas*, *Lycesterias* and *Pernettyas* flower; and as midsummer approaches, the *Syringas* (*Philadelphus*) are odorous with blossom, and the Austrian Briers, yellow and copper, with the Japanese Roses (*R. rugosa*), both single and double, are in full bloom, while later the *Spireas* in variety perfect their feathery inflorescence. The Plantain Lilies, with their handsome cordate leaves, provide fine form in their bold outlines, the blue-green foliage of *Funkia* Sieboldi being especially admirable in tint, and for richly-coloured leafage there are *Prunus Pissardi* and *Acers* of varied hues, one brown-red Japanese Maple having a spread of 10 feet.

Crossing the stream by stepping-stones hard by where a tributary spring joins the main current, one sees the limpid water sparkling round a bend, shadowed here and there by giant over-arching Fern fronds. Further down its course tall trees interpose their leafy tracery between stream and sky, permitting only a stray sun-shaft to fleck the ever-rippling surface of the running water, that anon reaches a barrier through which it forces its way, and, emerging from a bank of Ferns, falls foaming over rock and boulder to a lower level. In this sanctuary the peaceful monotone of the falling water, that "sound of loud repose," is ever present, varying but little with the circling months, for the volume of the springs is constant, and is but little influenced by the periods of torrential rains and drought that render many a rivulet now a foaming rush of turbid water, now a reluctant trickle that scarce has power to thread the Flag leaves that fringe its course. The seasons come and go, but the voice of the cascade, heedless of the passage of time, remains unchanged, and as its unvarying cadence falls upon the ear, the words of the gracious motto that encircles the sundial on the neighbouring church involuntarily project themselves on the retina of the mind—"Le temps passe, l'amitié reste." The tender sentiment is a reminder that other and more precious things than the song of the fall are

unaffected by the lapse of years. Of such are the

Friendships folded, put away,
Pressed into memory's leaves like faded flowers.

Time passes, but remembrance remains unaltered.

Thoughts and remembrances: these are the things that remain for ever.

But, despite the languorous refrain of the fall that has for a while rendered the listener oblivious of the prosaic side of life, the stream runs on its course unresting, and, waking from the reverie, one follows where Osmundas lift their plumed frondage on the verge of banks carpeted with the fresh green of the Oak Fern, where the American Maiden-hair (*Adiantum pedatum*) and other exotic Ferns have found a congenial home, while here and there *Lithospermum* and *Oxalis* peep out among the fronds, the Lily of the Valley grows in masses, and, earlier in the year, the *Cyclamens* brighten spaces with their reflexed blossoms. Trees of all descriptions flourish in the iron and potash provided by the green-sand formation, fine Cedars, Larches and *Ilexes* evidencing by their luxuriant growth that the soil is to their liking, while a giant *Taxodium* rears its lofty column in sight of the abbey, and deciduous trees, such as Beeches, Oaks and Limes, have reached stately proportions. S. W. F.

Campanula celtidifolia var. *cœlestis*.—The note by "D." in THE GARDEN of 30th ult. (page 78) is a timely one, and may, one hopes, draw the attention of some to a beautiful, but comparatively little known, member of this beautiful genus. *C. celtidifolia* is a very free bloomer, and does well in the ordinary border. In going through Mrs. Maxwell-Witham's garden at Kirkconnel, Newabbey, N.B., the other day, I again saw the variety grown there as *C. c. var. cœlestis*. The name under which it was received from the nurseryman who supplied it is not a very happy one, as there is nothing about the colouring which can be considered in keeping with the varietal title. The flowers may more aptly be called reddish purple. Purple flowers are not favourites with many, yet this Bellflower is free from the tints usually considered so objectionable. *C. celtidifolia cœlestis* has been grown at Kirkconnel for several years, but in no former season have I seen it more attractive.—S. ARNOTT.

Fuchsia Scarcity.—In Hyde Park one of the features is the number of large Fuchsias that are employed, and though several varieties have at one time or other been used, the selected ones are but few in number. Of dark kinds, the variety Scarcity is met with almost to the exclusion of all others, it being in every respect well adapted for such a purpose. It is of good free, yet sturdy growth, pushing forth its side branches horizontally or nearly so, while it is exceedingly free flowering. The blooms are large, the single corolla being of a rich plum colour, while the sepals, which are partially reflexed and thick in texture, are red. Taken altogether, it is one of the very best varieties for such a purpose. Another somewhat in the same way, but not used to anything like the same extent, is Tower of London, which is of a rather more drooping habit. Of light kinds, the old market variety Mrs. Marshall still holds its own, and the equally old Mme. Cornelissen is the principal representative of those with white corollas. That very distinct form Earl of Beaconsfield is also very effective in the open ground.—H. P.

New Tufted Pansies.—As to these it is not easy to gauge the public taste. The large bedding Pansy with a sprawling growth seems to please some of the growers, if one may judge by the prize-lists at the National show. My efforts have been in the opposite direction, and with a

profusion of moderate-sized flowers and a flat profliferous growth as to habit. I think now I have many varieties with the habit of Blue Gown, white, yellow and blue. Although yellow Tufted Pansy Rowberry has a sprawling habit, the colour of the flower and quality of petal are not excelled. With pollen from that variety I have crossed Gold Crest and Coolgardie, two of my dwarfs, with distinct results. The seedlings from that cross are great improvements. I have several bedding varieties with the right habit, golden flowers, and a profusion of them. These will, when known, be grown by all who want a nice contrast in colour. These do best in a light soil of leaf-mould with rotted manure, sand and light loam. The season in the north has been windy, over-dry, and no great growth on anything. We may come to have a fine autumn, however.—CHARLES STUART, Hillside, Chirnside.

ANDROSACE SARMENTOSA.

THIS beautiful spring-blooming alpine is a native of the rocky pastures of the Himalayas. Its flowers are of a lilac-pink colour, in handsome umbels, and it blooms for four or five weeks from the middle of April. Like many other



Androsace sarmentosa. Engraved for THE GARDEN from a photograph sent by Mr. J. Soltau-Symons, Chaddleswood, Plympton.

woolly-leaved alpiners, it suffers much from damp, and consequently should be planted in a slanting position and protected with glass in the winter. When not in bloom its broad rosettes of leaves always make it pleasing and attractive for a rock garden. The engraving is from a photograph taken towards the end of last April. It was planted ten years ago, and now covers a space of 4 feet by 3 feet. The soil it is growing in is loam, peat, and leaf-mould in equal parts, and it is fully exposed to the sun. It is watered freely during the summer, and covered during the winter months with a light form of garden frame. G. H.

Lilium Browni.—This Lily, noted on p. 81, will occasionally produce three flowers on a stem, but at the same time two are of far more frequent occurrence, while one large solitary bloom is very common. Some bulbs of this Lily that I planted quite early last year have behaved in a very erratic manner. They showed no signs of growth above ground during the whole of last season, though the bulbs were found to be perfectly sound, with many roots in good condition. They were then allowed to remain undisturbed, and

this season four of them have borne three flowers each, while there are several with two blooms. It is certainly in every way a very beautiful Lily, while it is also more robust in constitution than some other species.—T.

Carnations.—This has been a bad season for border Carnations in this district, and very few really good flowers have been seen. The plants came through the winter better than usual, but most of the flowers are thin, poor, and very badly infested with thrips, which seem more than ordinarily plentiful on all crops that they thrive on this year. The varieties that have done best are the old Baby Pink, Marguerite Hamel, Burn Pink, Alice Ayres, May Queen, Carolus Duran, Salamander, and a few selected seedlings. Those which are not seen to advantage include Murillo, Hayes' Scarlet, Ellen Terry, Gloire de Nancy, Miss Audrey Campbell, King Arthur, and Uriah Pike. For the first time for many years I have a perfectly healthy stock of Mrs. Reynolds-Hole. This came to me last year to replace the diseased stock that I discarded, and this it has done well.—J. C. T.

Double-flowered Martagon Lily.—It afforded me great pleasure to learn that this rare variety of the Martagon Lily was in such a thriving state at Kirkconnel, for it is now-a-days very seldom met with, and even if seen, by no means invariably in a flourishing condition. The most vigorous of all the Martagons appears to be the variety dalmaticum, many grand examples of which have come under my notice this season. Unfortunately, all the bulbs disposed of as dalmaticum are not of equal merit, the true variety having flowers of a solid blackish purple tint, whereas in others the colour is more or less washy. Concerning the bulbs of the Martagon Lily, it may be pointed out that the scales are so brittle, especially just at the base, that they suffer from rough handling more than those of almost any other Lily; hence in transplanting them they should be handled with especial care, and the large stout roots at the base of the bulb should be damaged as little as possible. With all the care that may be taken the bulbs will sometimes be dormant or nearly so for a season after transplanting.—H. P.

TUFTED PANSIES.

WITH plenty of rain, cool nights and dull days these are having a grand season, and some few which have given trouble in former years to get stock of are promising to produce plenty of cuttings of the right sort this year. Of the latter, Holyrood is the worst I grow, but the colour is so rich that it cannot be discarded. Quaker Maid has a fine constitution and gives no trouble, but during the past year or two the flowers have run to such an extent as to destroy the soft quiet shade of colour it once gave. A few plants remain true, but the flowers of the rest are flaked and striped with purple. Propagation from unaffected plants only does not stop the progress of rogues, neither does autumn planting. I should be glad of a hint to help, as flowers of the true type are valued. Countess of Kintore is one of the showiest and most constant, the only thing against it being its straggling habit, but this is almost necessary to such a constant flowering variety. The Mearns is another favourite that has taken to running, but as in this case a self-coloured rosy purple flower results in place of the bi-coloured type, no harm is done. Souvenir, one of the very earliest, has the biggest flower of any variety I grow; it is wonderfully free and bright and makes a handsome group. The strong growth made looks, when out of flower, like fat Watercresses. After a fortnight's rest this is now beginning to produce a second and heavy crop of flowers. Bullion is a fine, free and bright yellow variety that hardly ever slackens flowering during the spring and summer months, but it has not supplanted a much older and equally free yellow named Golden Bedder, a particularly dwarf variety of the Pansy type as to flowers, which have a "face" in them, but close and tufted as

to growth. *Sylvia* is a very free creamy white of good habit. *Violetta* I do not care for, it is so late in beginning to bloom; still, it is pretty, and a freer type with the same sized flower would be very acceptable in many colours. A few excellent home-raised varieties with the right habit and constitution and in various colours make up, with the ever-flowering little *Viola cornuta*, the set grown here after many have been discarded. The last mentioned rarely forms any seed-pods here; consequently there is no check to its constancy in flowering, and I look on it as quite an excellent plant. J. C. TALLACK.

NOTES AND QUESTIONS.—FLOWER.

A white Thistle.—Do any of your readers know of a white Thistle or a white-flowered variety of one?—V. B.

Saxifraga Burseriana.—In the notes on Saxifrages at page 79 there is a slight error by the omission of two words, which gives a giant size to the rosettes of the above species. In the passage commencing "Once or twice lately," page 79, half-way down, read "wherein patches of rose-trees," &c.—E. J.

Campanula pumila alba.—Quite recently I saw this growing in a wide band at the edge of a low wall in a cottage garden near to where I reside. It was in full bloom. This is the way to see what these plants are capable of doing. Cottagers about here take much pleasure in growing many of the showy hardy plants, and they grow them well.—J. CROOK, *Forde Abbey*.

Acartholimon venustum.—I have successfully increased this plant in this way: Make a small hole in the ground, into which press a portion of the stem; on this put a handful or two of earth, and a stone on the top to keep it all in position—in fact, exactly in the way Carnations are layered, but without slitting the stem. Roots are emitted from the buried portion, which can be cut away from the parent plant in the spring.—J. R. NEVE, *Campden, Glos.*

SOCIETIES AND EXHIBITIONS.

MIDLAND CARNATION AND PICOTEE EXHIBITION.

AUGUST 5 AND 6.

This exhibition of Carnations and Picotees was one of the finest we have seen anywhere, and we are pleased to find that the midland growers can promote such a keen competition in almost every class as we saw on Friday last. The show was held in the Botanic Gardens at Edgbaston, and the flowers remained fresh surprisingly well. Unfortunately, on the second day a heavy down-pour of rain continued throughout the afternoon, and must have kept many hundreds of visitors from seeing a very fine display of flowers. We shall not attempt a detailed report of the show, as a prize list is given in our advertisement columns. This will show that the southern growers, especially Mr. Martin Smith (gardener, Mr. Blick), came in great force, and the last-mentioned exhibitor succeeded in winning many of the chief prizes, including the challenge cup, given to the exhibitor who wins the largest number of prizes in certain classes. But we are pleased to know that a Birmingham amateur grower, Mr. Cartwright, of Selly Park, Edgbaston, was a very few points behind—a creditable performance, indeed, in face of the very strong competition. The challenge cup, open only to the trade, was won by Messrs. Thomson and Co., Sparkhill, Birmingham. Mr. Robert Sydenham, who has done so much to foster the cultivation of the Carnation in the midlands, and to whose energy the vigour of this society is in no small measure due, did not compete this year for the cup, having won it at the show last season.

This has been a remarkable year for the Carnation, and last week was quite early enough for the midland competitors, when such southern growers as Mr. Martin Smith, Mr. James Douglas, of Great Bookham, and Mr. A. J. Rowberry, of Woodford, Essex, can compete so successfully.

The self Carnations, we were pleased to notice, made an effective display, and the first prize in the class for twelve was won by Mr. Martin Smith, who had amongst others *Midas*, a beautiful orange-red; *Seagull*, bluish; *Cecilia*, yellow; *Exile*, rose; *Lady Hindlip*, brilliant scarlet, and Mrs. E. Hambro', pure white, a flower conspicuous for its purity and width of petal throughout the exhibition. The flowers shown by Mr. R. Sydenham were exceptionally fine; indeed, the two stands were well matched, and amongst the several varieties we noticed a very delicate yellow named *Regina*, which approaches closely the well-known *Germania*. Whether it will eclipse that well-known variety remains to be seen, but its lemon tint will be appreciated. A very successful grower of Carnations, until recently, we believe, an amateur only, is Mr. A. W. Jones, of Handsworth, who grows his flowers in a small garden, but with great ability. In a class for six selfs, the competition being very strong, he won the premier prize with excellent flowers, Mrs. Eric Hambro' and the deep red *Mancunian* being worthy of mention. A very close second was Mr. R. C. Cartwright.

The division for the beautiful class of yellow ground Picotees was well filled, happily, as this is a very charming type of flower, and in the chief class, namely, for twelve, Mr. Martin Smith was first, with Mr. Douglas second, and for six Mr. R. C. Cartwright was first. Mr. R. Sydenham had twelve delightful white ground Picotees and was placed first.

Flowers cut from the open border and not dressed in any way were shown well by Mr. Weguelin, St. Mary Church, Torquay, who was a successful prize-winner, and we are pleased to notice that several prizes are offered each year for flowers not touched with the tweezers. In the classes for undressed blooms in vases, Mr. Sydenham staged a very fine collection of twelve selfs, whilst for a corresponding number of fancies or yellow grounds, Mr. Martin Smith was first, and Mr. Sydenham for the delicate white ground Picotees. Mr. C. F. Thurstan, too, showed well in this division. We have seldom seen a more extensive display of single blooms; the competition was tremendous. In the scarlet bizarre division the popular variety *Admiral Curzon* was conspicuous. Mr. R. Sydenham showed Master Fred splendidly in the crimson bizarre class. Of pink and purple bizarres, W. Skirving, shown finely by the last-mentioned exhibitor, and Sarah Payne were favourites, whilst of scarlet flakes, Sportsman was the prize-winner, and in the rose-flaked class *Thalia*. The purple flake Gordon Lewis won Mr. Sydenham chief award in the class for this type of Carnation. Mr. Cartwright and Mr. Sydenham showed Picotees remarkably well, including such varieties as *Ganymede*, Mrs. Gordon, Muriel, Mrs. Openshaw, H. Kenyon, Ann Lord, Mrs. Payne, Little Phil, Clio, Mrs. Sharp, and Favourite. Messrs. Smith, Sydenham, and Cartwright divided the honours in the self or fancy class. Mrs. Eric Hambro' was the chief white self, and *Exile*, a clear pleasing rose, *Etna*, scarlet, and *Mancunian* were favourites too. In the classes for those growers who have never previously won a prize, Mr. T. F. Dranfield, Stoke-on-Trent, showed well, but there were nearly twenty exhibitors, and this, we think, is an excellent sign for the future. It shows that the number of growers is getting larger and that the prize-winners of to-day will meet keen competitors in the years to come.

It will be interesting possibly to our readers to know a few of the varieties that attracted our attention most at the exhibition. Among the selfs, Mrs. E. Hambro', white; *Her Grace*, bluish; *Seagull*, of similar shade; *Exile*, clear rose; *Jim Highgate*, deep clove colour; *Mancunian*; *Verena*; *Mephisto*, intense crimson, an effective kind; *Endymion*; the old but distinct mauve *Garville Gem*, shown well by Mr. Weguelin; *Britannia*, a very fine highly-promising yellow flower; *Winifred*, deep apricot; *Lady Hindlip*, and Miss A. Campbell, yellow, were the best. In the fancy Carnation and yellow-ground Picotee

groups, *Perseus*, Mr. Nigel, and *Dervish* were especially noteworthy, and we must mention, too, the beautiful variety *Czarina*, which was exhibited freely and well.

The exhibition was varied by Sweet Peas from Mr. Eckford, Wem; tuberous Begonias from Mr. B. R. Davis, of Yeovil; and hardy plants well staged from Mr. W. E. Gunn, Olton; Messrs. Hewitt and Co., Solihull; and Mr. J. White, of Worcester. We hope that this society will continue to prosper, and certainly Mr. Sydenham, the secretary, and all concerned must be congratulated on the display.

A prize list is given in our advertisement columns.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 9.

THE meeting held on Tuesday last in the Drill Hall was full of interest in many departments. The Roses and Malmaison Carnations of some recent exhibitions have now given way to other flowers in season, as exemplified in the Dahlias of all sections save singles. Considerable interest centred also in the beautiful and varied collections of hardy Water Lilies that came from several sources, attracting, as well they might, if only from their extreme beauty and exquisite fragrance, a great deal of attention. Seedling Hollyhocks of an excellent strain would appear to render the purchasing of named kinds altogether superfluous, at least from a garden point of view. Of Orchids, there were very few, while hardy flowers, owing doubtless to the recent general and abundant rain, were good and in plenty. Particularly good, too, were the Lilies, a group of *L. auratum* Wittei from Colchester being superb. Gladioli were also a feature, and pleasing in their many shades. The Pitcher Plants from Frogmore and the tall Chimney Campanulas from Syon were each a feature, while Ferns from Edmonton again filled a goodly space. Very complete collections of Gooseberries and Currants, together with the choicest of dessert Cherries, were well shown, these, with a superb collection of fruit from Regent's Park, completely filling one table.

Orchid Committee.

Awards of merit were given to the following:—

CYPRIPEDIUM OLIVIA (C. *tonsum* × C. *niveum*).—This is a distinct and desirable hybrid of American origin. The dorsal sepal is creamy white, suffused with purple, shaded with green in the centre, longitudinally lined with green and purple; the petals each about 3 inches in width, creamy white, suffused with purple, and slightly spotted with dark brown spots. The lip is creamy white, suffused with rose-purple, and veined with a darker shade of purple; the lateral sepal creamy white, veined with green. It has the intermediate characters of both parents in the growth and also in the flower. From Messrs. H. Low and Co., Bush Hill, Enfield.

ODONTOGLOSSUM CRISPUM LEHMANNI (Schofield's var.).—This is the finest O. *Lehmanni* that we have seen, the sepals white, suffused with rose, and spotted in the centre with bright purple spots. The petals are pure white, much crisped at the margin; the broad lip characteristic of the species is unusually large, white at the margin, with a large V-shaped blotch of rich purple covering the whole of the centre, shading again to white in front of the yellow disc and crest. The small plant carried a raceme of three flowers. The plant should improve as it gains strength, and will, no doubt, prove one of the most remarkable *Odontoglossums* in cultivation. From Mr. G. W. Law-Schofield, Newhall Hey, Rawten-stall, near Manchester.

SOBRALIA SANDERIANA.—This is a distinct and desirable form. The sepals are pale rose, suffused with a darker shade of rose, the petals deep rose, suffused with rose-purple, the distinct lip bright reddish crimson, with a line of deep rose in the centre. The side lobes are rose, shading to yel-

low, and suffused with brown at the base. Two cut flowers came from Baron Schröder.

Messrs. H. Low and Co., Bush Hill Nurseries, Enfield, sent two lovely forms of *Cattleya Gaskelliana* alba, a dark typical form of the same species, and a large form of *Oncidium Papilio*, the lip being upwards of 3 inches across, deep brown, margined with yellow, and having a large blotch of yellow in the centre, the petals each upwards of 4 inches in length, rich brown, marbled and barred with bright yellow. Messrs. J. Veitch and Sons sent a remarkably dark form of *Cypripedium calanthum* (C. *barbatum* × C. *Lowi*), having the intermediate characteristics of both parents. Mr. J. Douglas, Edenside, Great Bookham, sent a very large form of *Dendrobium formosum giganteum*, the orange blotch in the lip being also unusually dark and distinct. Mr. T. B. Haywood sent *Vanda Batemanni* with small flowers, the ground colour yellow, thickly covered with dark brown spots; the lip rich purple, shading to yellow. The outside of the flower is bright rose-purple. M. E. Zollinger, Jenny Villa, Greten, Wollishopen, sent a cut spike of a dark form of *Vanda Sanderiana*. Capt. T. A. Julian, Plymouth, showed a distinct light form of *Cattleya Warscewiczii* (gigas), and Baron Schröder exhibited a cut two-flowered spike of the lovely and valuable *Cypripedium Stonei* platytanum.

Floral Committee.

The following plants received first-class certificates:—

FURCRAEA WATSONIANA.—A very distinct and attractive species with widely spreading leaves, each 2 feet in length, having a central stripe of white and a broad dark green margin, between which and the centre narrower lines of white are situated. From Messrs. Sander and Co., St. Albans.

NELUMBIUM NUCCIFERUM SPECIOSUM.—A gigantic leaf and blossom of this Sacred Water Bean were shown, the former fully 2 feet across, nearly or quite circular, and the large handsome flower-head also of considerable size; the flowers are nearly pure white, but not inclined to expand in the atmosphere of the Drill Hall. Detached from the plant such things quickly fade. From Her Majesty the Queen, Frogmore (gardener, Mr. Owen Thomas).

The following received awards of merit:—

GLADIOLUS W. B. CHILD.—A variety of the Lemoinei group with large massive flowers of a crimson-purple hue, lightly freckled with white. From Messrs. Kelway and Son, Langport.

GLADIOLUS VESUVIUS.—Also of the Lemoinei group, and having flowers of the richest and most intense crimson velvet. From Mr. Maurice Prichard, Christchurch.

GLADIOLUS BARON J. HULOT (Lemoinei section).—The flowers are of a rich dark violet-purple, shaded blue. A rather poor spike, but a remarkable shade of colour. From Mr. M. Prichard, Christchurch.

CARNATION NOX.—A border kind, and the darkest of the crimson-maroon shaded selfs. A well-formed flower of moderate size. From Mr. Jas. Douglas, Edenside, Great Bookham.

CHRYSANTHEMUM Mlle. MARIE MASSE.—A capital bunch of this extremely popular early-flowered variety. The colour is a warm rosy lilac, tinted in the centre with yellowish bronze. From Mr. T. B. Haywood, Woodhatch, Reigate (gardener, Mr. Salter).

NYMPHÆA MARLIACEA IGNEA.—This is one of the gems of the highly-coloured forms, and not only handsome in point of colour, but large and showy also. The petals, which are numerous and well imbricated, are of a cherry-crimson hue, very bright and effective against the cluster of orange stamens in the centre. From Mr. A. B. Freeman-Mitford, Moreton-in-the-Marsh, Gloucestershire (gardener, Mr. J. Garrett).

Messrs. Wm. Paul and Son, Waltham Cross, sent a most effective group, prominent in which was a fine lot of seedling Hollyhocks, representing every shade of colour in these showy flowers.

The spikes were cut almost their whole length, and, being densely flowered, formed not only a fine group, but gave an excellent impression of their value in the garden. There were some fifty spikes set up in white, rose, buff, yellow, salmon, blush-scarlet, and lake, besides intermediate shades. The flowers were of good size individually. A good assortment of Phloxes included several new kinds, the most prominent being Lord Rayleigh, violet-blue, the nearest approach to blue of an acceptable shade that we have seen in these flowers. Of the others, Albatre, white, dwarf; Meteore, rose-salmon; Etna, scarlet; and Adonis, salmon-scarlet, were the best. A fine batch of *Yucca flaccida* in flower, together with a highly promising golden Yew called Waltham Golden, a selection from a large bed of seedlings, were also shown. Besides being much brighter than the Irish form, the Yew is also denser and much more uniform in growth (silver Flora medal). A fine group of *Nepenthes* was set up by Mr. Owen Thomas, gardener to Her Majesty The Queen, Frogmore, and arranged over a ground-work of Maiden-hair Fern, displayed the pitchers to advantage. The collection included the following varieties of this important group: *Intermedia*, *Worthiana*, *Curtisi superba*, with long and dark pitchers; *Wrigleyana*, a very handsome form; the well-known *Rafflesiana*, *Morgania*, with red pitchers; *Mixta*, *Mastersiana*, crimson, very fine pitchers; *Hookeriana*, *Burkei*, *Dicksoniana*, &c. Well-flowered examples of *Acalypha Sanderi* (hispidula) and the pretty variegated *Abutilon Swatzi*, with silvered foliage, were also noted in this group. The Pitcher Plants were raised on pedestals to a good height and in this way appeared to advantage (silver-gilt Flora medal).

Mr. H. B. May, Edmonton, brought together a collection of *Nephrolepis*, numbering some twenty-four species and varieties, which is the genus in its entirety as known to cultivation. Some of the most distinct are acuta with dark rachis, pluma, tuberosa, ensifolia, Faulkneri, Duffi (very dense), cordata undulata, rufescens tripinnatifida (very erect habit), exaltata multicreps with curiously forked pinnae, pectinata and philippinensis, approaching each other in appearance, cordata and its varieties compacta and crispa, and the golden green-tinted *N. exaltata* (silver-gilt Banksian medal). A well-arranged group of fine-foliaged and flowering plants came from Mrs. Abbott, South Villa, Regent's Park (gardener, Mr. G. Kelf). The group contained some exceptionally fine and well-grown examples of *Areca lutescens*, one of the plants, a fine clean grown specimen, being nearly 15 feet in height, in the centre, and two others nearly 10 feet high at intervals in the background, as it were; *Kentias*, *Phenixes*, *Coryphas*, and *Cocos* in variety were among the other Palms employed in this extensive arrangement. Such things as *Crotons*, *Caladiums*, *Pandanus*, *Cannas*, *Aralia Veitchii*, *Acalyphas*, *Asparagus*, *Lilium speciosum* varieties, &c., being tastefully arranged and grouped together, Maiden-hair Fern with other small plants forming the groundwork and margin. The entire group must have been nearly 50 feet in length. A silver-gilt Banksian medal was awarded. From Langport the Messrs. Kelway and Son brought an extensive assortment of *Gladioli*, mostly of the *gandavensis* section, a long table being filled with these and hardy perennials. The *Gladioli* had apparently been suffering from the long-continued drought, the spikes, indeed the flowers generally, were not up to the usual high standard of excellence. There were also many beautiful *Gaillardias* in variety, as also *Eryngium planum*, *Eryngium alpinum*, and *Eryngium Oliverianum superbum*, the bluest of the tribe. The white Caucasian *Scabiosa*, *S. caucasica alba*, was in good order, the flowers fine and clean. *Rudbeckia Golden Glow* and *Helianthus Soleil d'Or* were also noticeable. The curious *Michauxia campanuloides* was also included (silver Flora medal).

The Water Lilies were interesting, visitors thronging round the all too small exhibits of these beautiful flowers. The whole of these

beautiful hybrids are perfectly hardy in the open pond or lake. This is the question invariably put. It is one, moreover, that may be heard being discussed frequently by visitors, and for these reasons, as also the general instruction arising therefrom, exhibitors may not inaptly designate them hardy hybrid Water Lilies, or some such term as would be clearly understood. Several collections were exhibited, that from Mr. A. B. Freeman Mitford, Moreton-in-Marsh (gardener, Mr. J. Garrett), comprising a dozen kinds. These floating in a couple of spacious sponge baths were seen to advantage, the flowers, as also the foliage, being in excellent condition and beautifully fresh. The following varieties of *N. Marliacea* were shown: *Rosea*, *albida*, *Chromatella*, *flammea*, *rubro-punctata*, *ignea*, together with *N. Laydekeri fulgens*, *N. L. fulva*, *N. L. lucida*, *N. gloriosa* and *N. odorata*—a most charming lot (silver Flora medal). Mr. Leopold de Rothschild, Gunnersbury House, Acton (gardener, Mr. Hudson), likewise contributed a beautiful assortment, which besides containing many of the above named kinds, included the lovely little *Helvola* and *pygmaea*, *odorata*, *Seignouretii*, with soft yellow flowers, shaded with rose; *N. Robinsoni*, a finely coloured form, rose to deep rose, and delicately, though freely spotted with white; *odorata sulphurea grandiflora*, *odorata rosea*, exquisitely perfumed and of a most lovely shade; *Aurora*, creamy white; *Marliacea carnea*, *Ellisiana*, a rich crimson, &c., the whole constituting the most complete gathering yet seen. It was distinctly stated that the whole of the Gunnersbury House collection had been grown in the open lake without protection. Some of the earliest planted have withstood 26° of frost with no protection, and it is fully expected the recent additions will be their equal in perfect hardiness. Such information as the outcome of general experience is most welcome (silver Banksian medal). A further lot of these beautiful hardy Water Lilies came from Mr. W. Robinson, 63, Lincoln's Inn Fields, the blooms throughout being strong and vigorous, evidently the outcome of well established examples (bronze Flora medal). The group of *Chimney Campanulas* (*C. pyramidalis compacta*) from Earl Percy, Syon House, Brentford (gardener, Mr. George Wythes), was of unusual interest and splendidly grown; indeed, it would be difficult to surpass the many beautiful examples of which the group in question was composed. The plants had been raised from seed sown sixteen months ago, and were growing in 8-inch pots, the heights varying from 3 feet to 7 feet and upwards. Apart from the main spike or column, which in every plant was densely flowered, were numerous basal laterals ranging from 2 feet high that added greatly to the effect as a whole. Not the least pleasing feature was the varying shades of blue, some very soft and delicate looking. These arranged thinly among the snowy spires, which were more numerous, gave an increased charm to the whole. A setting of Maiden-hair Ferns, with a few tall Palms in the background, completed a very pleasing and beautiful arrangement (silver Banksian medal).

The Messrs. Wallace showed Lilies in variety, the most notable being a group of *L. auratum* Wittei, a massive pure white kind, the white of the segments only relieved by the chrome-yellow rib running through each segment. *L. a. rubrovittatum*, *L. Henryi*, *L. Batemanni*, *L. speciosum album novum*, *L. longiflorum giganteum*, and *L. chalcidionum* were also shown. The same group contained quite a host of the hybrid *Montbretias* (*Tritonias*) in some eight or more kinds, all very beautiful, and many *Gladioli*, mostly of the Lemoinei group, which appear to be increasing in favour owing to their strangely beautiful colours and lessened formality, *G. Saundersi*, with orange-scarlet flowers, being in some quantity. A few *Calochorti*, probably the last for the season, and a beautiful lot of border *Carnations* were also noted. A couple of pans were also filled with *Sternbergia macrantha*, a huge Meadow Saffron-like blossom of a golden hue appearing to each bulb. The bulbs, which are part of a recent

importation, were of fine size, and emitting roots abundantly as the result of a few days in the soil. This should make a fine plant for selected positions in the border or rock garden (silver Banksian medal). A capital assortment of choice hardy things came from Mr. Prichard, Christchurch, the bunches freely disposed and nicely arranged. Here the white Scabious was in plenty. The curious *Zygadenus elegans*, the brilliant *Zauschneria californica* and its variety splendens, *Dianthus Atkinsoni*, rose and white Everlasting Peas, *Clematis integrifolia* and *C. coccinea*, fruiting examples of *Podophyllum Emodi*, *Echinops sphaerocephalus* and *E. nivalis* (both excellent), Parker's crimson variety of *Lobelia cardinalis*, *Gladiolus Lemoinei*, a fine bunch of *Asclepias tuberosa* with handsome heads of orange flowers, the plant being rarely seen in such condition, and a nice lot of hybrid Water Lilies were also included in this group (silver Banksian medal). Hardy flowers came also from Messrs. Cutbush and Son, Highgate, including border Carnations, Phloxes, *Platycodon grandiflorum*, several *Eryngiums*, *Papaver nudicaule*, &c. (bronze Banksian medal). Border Carnations in variety, but not named, came from Lord Hillingdon, Hillingdon Court, Uxbridge (gardener, Mr. Allan), and included many beautiful flowers. Others from Mr. James Douglas included some excellent things. A fine exhibit of the pure white border Carnation George Maquay was set up by the Messrs. Veitch and Sons, the flowers cut with buds and full length stems, showing its value in a cut state.

Annuals also in great variety were set up by the same firm, the Sweet Sultans and Lavateras being most charming. A few choice shrubs, &c., such as *Pavia macrostachya*, *Cornus macrophylla*, the pure white *Eucryphia pinnatifida*, and the blue-berried *Coprosma acerosa*, were also included. Flowering branches of *Gloriosa superba* came from Mr. Crook, Forde Abbey, and a fine white Rose (Mrs. Stephen Treseder) from Mr. S. Treseder, Pwyl Coch, Cardiff.

One or two collections of show and Cactus Dahlias prove the near approach of early autumn, but the flowers generally are not yet so fine as they will be later on. A rather good lot was that from Mr. J. Walker, Thame, Oxon, embracing show, fancy, Cactus and pompons, all in nice fresh blooms. Show kinds were also good (silver Banksian medal). Another exhibit came from Mr. Mortimer, Farnham (silver Banksian medal). Messrs. Webb and Brand, Saffron Walden, had a display of double Hollyhocks, but it is scarcely possible to judge of the merits of varieties by single blooms. A bronze Flora medal was awarded. A seedling Croton, *C. Wentworthianus*, the result of crossing *C. interruptus* with *C. Weismanni*, came from Earl Fitzwilliam, Wentworth Woodhouse, Rotherham (gardener, Mr. J. Hughes). It is a showy and well-marked kind, but in the small plants shown it would be difficult to say if there is any improvement on the many beautiful things already in commerce; the tendency is towards *C. interruptus*, though the stems give the colour of *C. Weismanni*.

Fruit Committee.

Messrs. Veitch and Sons, Ltd., staged 100 varieties of Gooseberries in trays. This was certainly one of the best exhibits of Gooseberries ever seen at the Drill Hall. In the red varieties one could not fail to notice such splendid kinds as Beauty, Clayton, Companion, Crown Bob, Dan's Mistake, Duke of Sutherland, Foreman, Forester (one of the best reds), Highlander (a grand berry), and Whinham's Industry. Of yellows, Langley Beauty, a variety given a first-class certificate, was very fine. Gipsy Queen was also good, as were Leander, Gunner, Leveller, Magistrate, Oyster Girl, Railway, Pretty Boy, and Trumpeter. Of green kinds there were some twenty dishes, and amongst these are found some of the best flavoured. Duster, Green London, Keepsake, Matchless, Plunder, Stockwell Surprise, Telegraph, Souter Johnny, and Tom Turner were very fine. In the white section

some of the berries were smaller, but Alma, Careless, Eagle, Mitre, Progress, and Queen of Trumps were very fine. The new Langley Gage was well represented. There were at the back several stands of fruiting sprays both of Gooseberries and Currants. Of the Currants twenty-five varieties were shown, Black Naples, Ogden's Black, Lee's Prolific Black, the Cherry Currant, La Constante, La Hative, La Versailles, Mammoth, Warner's Grape, White Dutch, and White Cut-leaved were the best. Some six varieties of early Apples, including Mr. Gladstone, Irish Peach, Early Harvest, Julien, Red Astrachan, and Oslin were staged, with Doyenné d'Ete, Jargonelle, and Citron des Carmes Pears. A gold medal was awarded. The next best collection of fruit was doubtless that shown by Mr. Kelf, South Villa, Regent's Park, N.W. Plums in pots formed a background, the varieties being Coe's Golden Drop, Jefferson's, and Cox's Empress, with some gathered fruits of Kirke's, Reine Claude, Le Comte d'Athens, Green Gage, McLaughlin's Gage, Magnum Bonum, and Early Transparent Gage. A very fine lot of Royal George, Bellegarde, and Barrington Peaches was also staged, with Black Hamburg, Madresfield Court, Muscat of Alexandria, and Buckland Sweetwater Grapes, and some half dozen Melons in variety (silver-gilt Knightian medal). A very good lot of fruit in variety was staged by Mr. Miller, Ruxley Lodge Gardens, Esher. A few of the Peaches were scarcely ripe. Royal George, Violette Hative, and Alexandra Noblesse were excellent, as were Waterloo and Early Alexander from open walls. Cherries with some half dozen varieties of Melons, Apricots in variety, Plums and Gooseberries were included (silver Knightian medal). The Messrs. Rivers, Sawbridgeworth, Herts, sent a small collection, in which were some grand Cherries in variety, with a splendid basket of Early Rivers Nectarine and Grand Duke, and Golden Transparent Plums (silver Banksian medal). The Messrs. Harrison and Sons, Leicester, staged twenty varieties of Broad Beans, these in many cases being excellent. From the Society's Gardens, Chiswick, were sent dwarf French Beans. Veitch's Early Forcing was the heaviest cropper, and a grand pod. Gibson's Bean and Early Negro from Messrs. Dammann, Naples, were no advance on existing varieties. The Committee decided it was best to see all the varieties in a growing state at the Gardens. A dish of Scarlet Runner Beans came from Mr. T. W. Aimes, Ashford, Kent, and a nice dish of Snowball Turnip came from M. A. Dean, Richmond Road, Kingston, to compare with a variety recently given an award. Melons were sent by two exhibitors, Mr. J. Crook sending a nicely netted pale green flesh variety named Forde Abbey Seedling, but lacking flavour. A new seedling named Capps' Seedling, a white flesh, came from Mr. Capps, Paddockhurst, Crawley, but much too ripe. Mr. Roupell, Roupell Park, S.W., sent Mr. Gladstone and Irish Peach Apples, excellent for the season. The Messrs. Veitch sent a new fruit, the Raspberry Blackberry, the result of crossing the Raspberry with the Blackberry. The berries are late and very prolific, and have a nice brisk acid flavour. Messrs. Kelway, Langport, sent a new fruit, the Strawberry Raspberry, but the committee were not allowed to taste the fruits, so could give no idea as to their value. Mr. Carmichael, Pitt Street, Edinburgh, sent a new Strawberry Britannia, which looked like a poor Waterloo. If well grown it should make a good late variety. Mr. Blake, Clandon Park Gardens, sent Currant La Versailles to show its close affinity to the new Red Currant, Comet. The committee desired a trial to be made at Chiswick of the two varieties, some of the members thinking Comet the older kind.

The weather in West Herts.—Taken as a whole the past week proved very cold for a summer month. On the 7th the temperature in shade never exceeded 58°, which is the lowest maximum reading recorded here in August since

1888. Most of the nights were also cold, the exposed thermometer on one of them falling to within 8° of the freezing point. Consequently the ground temperatures have fallen, the reading at 2 feet deep being at the present time about 1°, and at 1 foot deep about 3° below their respective averages. Some rain fell on every day, but the total for the week only amounted to about half an inch. No rain-water at all has now passed through either of the percolation gauges since the middle of July. On the 4th the sun shone brightly for twelve hours, but on several other days there was a very scanty record of sunshine.—E. M., *Berkhamsted*.

NOTES OF THE WEEK.

Carnation Lady Ardilaun.—We learn that this Carnation, which was figured in *THE GARDEN* of February 5 of the present year, received the first prize in an immense competition at the Midland Carnation and Picotee show at Birmingham on the 5th and 6th inst. for the best specimen fancy in the show. It was shown by Mr. Weguelin, St. Mary Church, Torquay.

Seedling Carnations.—Herewith I send you for your opinion a box of seedling Carnations. The one marked "No. 11" has over 200 buds and flowers on one plant. I consider some of them are equal to named varieties. I grow about forty kinds.—W. WILSON, *Lamorbey Cottage, Sidecup, Kent*.

*** Very bright and handsome seedlings, and, as you say, as good as many named varieties. These, however, are usually sent out more in the interest of the raiser than of private growers, and are mostly useless from any point of view save that of the exhibitor.—Ed.

Astilbe Thunbergi is now a very showy plant, with its handsome panicles of creamy white flowers slightly arching at the tip. The plant is naturally of a vigorous habit, attaining to nearly 4 feet high, and bearing many of its showy plumes when the plants are established. Given a strong and fairly good soil, the plant is not slow to make headway, but attaining the greatest dimensions where moisture is present. In the strong soil in the Botanic Gardens, Birmingham, the plants in this latter position are very effective. Some capital examples are likewise flowering in the Kew collection.

Bambusa palmata at Glasnevin.—The poor specimens of this Bamboo one so generally sees give a feeble idea of the beauty of established plants in congenial situations. As often seen, the palmate Bamboo looks greatly inferior to such fine species as *B. Metake* and others of the genus. Effective plants of *B. palmata* are seldom met with, and until I saw one this summer in the Royal Botanic Gardens at Glasnevin it did not hold as high a place in my estimation as several others. It was impossible, however, not to recognise the beauty of the Glasnevin specimen and to agree with a high authority that the palmate Bamboo is one of the best of the genus.—S. ARNOTT.

Patrinia rupestris.—It may not be out of place to observe regarding my note on this plant at Kirkconnel (page 112) that *P. rupestris*, as best known and as described in the "Dictionary of Gardening," has yellow flowers. The plant to which I referred, and which has white flowers, was, if I mistake not, sent out from Newry. I have seen plants with poorer flowers in other gardens also with white blooms and also grown as *P. rupestris*. It may, however, not be a *Patrinia*, but a *Valerian*. According to the "Kew Index," *P. intermedia* and *P. sibirica* are distinct species. *P. rupestris* of Bunge is the former, and *P. rupestris* of Steudel the latter. A note from Mr. H. Selve-Leonard leads me to think it better to pen this in case of misunderstanding.—S. ARNOTT.

Cytisus nigricans.—Although now past its best, this Broom is still pretty and bright. During July it is one of the most charming of the *Cytisuses* and *Genistas*. It carries its flowers on tall, slender, perfectly erect spikes terminating

the present summer's growth. They commence to open at the bottom first, and a long succession of them extends over many weeks. They are bright yellow, the name of *nigricans* referring to the peculiarity of the plant turning black when dried. As soon as it has done flowering the upper part of the shoot bearing the seed-vessels should be removed, these being so abundant as to weaken the plant if the whole of them are left to ripen. They may be shortened still more in spring before growth recommences. By this means the plants may be easily kept about 3 feet high, and always bushy and compact in habit. It is very easily increased by means of seed.

The Chimney Bellflower (*C. pyramidalis*).—I enclose a photograph of some plants of *Campanula pyramidalis* which are now standing in the front hall at Hatfield House. There are six plants, four white ones and two blue ones. They are each from 7 feet to 8 feet high. The seed was sown the first week in March, 1897, and the seedlings were pricked off into pans, then when strong enough potted into 4-inch pots and grown on in a cold frame. In June they were shifted into 6-inch pots and placed on a bed of ashes out of doors till bad weather came. Then they were placed in a cold frame again, and kept there during the winter with very little water. They were potted again in February of the present year into 9 inch pots, and brought into the vineries in April, where they were grown, being brought from the early vinery to the late one, as the vines covered the roof.—CHARLES A. HEATH, *Hatfield House, Hatfield.*

Indigofera Gerardiana.—There are few more charming shrubs flowering out-of-doors during the month of August than this Himalayan *Indigofera*. Planted against a wall its growths usually survive the winter, but in the open it is killed to the ground almost invariably. It sends up a thicket of shoots each 2 feet to 3 feet high, which are luxuriantly furnished with dark green leaves, and which in themselves make the plant distinctly handsome. It is from the axils of the leaves that the spikes of bright rosy flowers continue to appear from July up to the end of September. Each spike is 3 inches to 4 inches long with the flowers thickly clustered on the upper part. The one drawback to this shrub is its lateness in starting into growth. It is not till June that the old stools become really furnished with young shoots. For this reason it is unsuitable for planting in large groups by itself. It makes a pretty undergrowth for taller things provided it is not unduly shaded.—B.

Dianthus Knappi.—If for no other reason, this distinct Pink is worth a position in the rock garden for its exceptional colour, a deep sulphury yellow shade. The species is not, so far as present experience goes, to be reckoned amongst robust growers, but doubtless if seen in a colony would have a very pretty effect. The individual flowers are about three-quarters of an inch in diameter, and appear in small clusters on stems nearly or quite a foot high. Such pests as mice, voles, slugs, and the like are exceedingly fond of the shoots and even the stems and leaves, the two first being responsible at times for well-nigh clearing it away completely. Possibly a syringing of strong quassia water about the plant would render it distasteful for the time, and as the plants so treated retain the acrid taste for some weeks, it is at any rate worth a trial, not merely with the above, but with other choice things that are too frequently attacked and lost before one is aware of anything wrong.

Asilbe Silver Sheaf.—This distinct and handsome kind, so well shown in fine flowering clumps by Mr. Prichard at the Drill Hall meeting a week ago, does not appear to be generally cultivated or even generally known. There is, however, not the least doubt of its beauty and worth, particularly in established clumps such as those now referred to, and it is doubtless but a question of time before we see this handsome plant taking its true place in the garden. In the buff-white tone of the plume-like panicles of blossoms

there is quite a distinct character, which is as striking as it is novel and effective. The plant is possessed of a good vigorous habit, perhaps rather too rigidly erect, if the examples referred to were representative of the kind, yet at the same time quite distinct from the various members of this race and a good all-round plant withal. Moisture-loving, of course, like most of its race, the plant will offer no difficulty to the cultivator if a cool and rather moist place be given it.

The Kilmarnock Orchis.—While at Kirkconnel lately I had the opportunity of again seeing the plants of *Orchis maculata superba*, to which Mr. Harper referred in his useful note in THE GARDEN a few weeks ago in dealing with the question of removal or non-removal. Unfortunately, Mr. Harper was away on a holiday, and one had not the opportunity of discussing the matter with him. It may be observed that the soil in the gardens at Kirkconnel is apparently very suitable for hardy Orchids, and it may be that in soil such as this the Kilmarnock Orchis with a top-dressing annually does not dwindle away. Mr. Harper has a special liking for the hardy Orchids, and manages to grow them well, soil and situation being alike favourable. The spikes produced on established plants are very handsome, but, as bearing on the question at issue, it may be said that those on plants only divided last year were quite as good, and the latter showed no sign of being any the worse for their removal. Grown in ordinary gardens, the experience of many is that occasional removal is necessary.—S. ARNOTT.

Spartium junceum.—This, the Spanish Broom, is the brightest and most showy of the yellow-flowered shrubs in bloom during July and early August. The flowers are borne on erect spikes, each 6 inches or 8 inches high and each one is 1 inch across, the standard petal being especially noticeable for its breadth and size. The flower is, indeed, individually the largest among the hardy Leguminosæ. The plant is not uncommon in gardens, but as a rule one sees only one or two scattered specimens of it. To get the brightest effect it should be planted in groups of not less than a dozen plants, not necessarily close together, but near enough to catch the eye at once. The finest effect I have seen produced in this country by the Spanish Broom is at Taplow Station, on the Great Western Railway. Whoever planted the shrubberies about the station appears to have had a big stock of this shrub on hand. At all events it is scattered freely all round the place, and at this or a slightly earlier season makes Taplow one of the brightest railway stations in the kingdom. It grows usually some 8 feet to 10 feet high, occasionally more. It has scarcely any foliage, only a few scattered narrow leaves on the soft pithy stems. In a small state it should frequently be stopped so as to induce a bushy habit. It does not need a rich soil, but keeps at a more convenient size and flowers better in a comparatively poor one.—B.

Omphalodes Luciliæ.—It is rarely that we see strong tufts of this alpine plant growing or flowering as freely as one could wish. It is seldom safe to plant it unless in some well-prepared mixture of soil, and so long as this is light, well drained and of good depth, its composition is of little moment. It is, however, a plant that even the most experienced cultivator of alpine must watch. I have but once seen the plant quite happy, growing and flowering freely in a semi-naturalised sort of way, and this on a small, quite unpretentious bit of rockery in the late Mr. Atkins' garden at Painswick. Here the sky-blue flowers were jutting out everywhere on this little slope of made soil, to which slate chippings had been freely added. The common gravel of the district, a magnesian limestone, was also strongly in evidence, and not only on the rockery slope, but large tufts in pots were crowded with crowns. Such tufts as these may with great care be divided in early spring just

when growth has fairly begun; to attempt the division of the plant when dormant would mean ruin. In an equal mixture of fibrous peat and strong loam, with sharp sand and pounded brick rubbish, some success has been secured both with divisions and seedlings. The latter are very slow, and must be watched continually on account of slugs. Cuttings when such can be had will root in pure sand, kept very moist and nearly dark, but if allowed to droop will rarely if ever recover.

Saxifraga Hirculus.—This is not only one of the most distinct of this genus, it is also one of the most uncommon, particularly so in good condition. It is a plant that in some gardens appears to thrive in various positions without special care, while in others considerable care may be bestowed upon it with but little success. The large golden yellow blossoms resemble at a short distance those of some of the *Helianthemums* in shape and colour, while the foliage is prostrate or nearly so. The species is reputedly a swamp or bog-loving kind, though often in this position the plant is flowerless and more or less generally a failure. One of the essentials to the bog treatment is that the plants also should be in the full sun. Where the opposite position is selected the plant frequently is not happy. Some years ago I had this plant, or, more strictly, a major form of it, doing well in the drier parts of a small artificial bog, rendered dry in the sense that the surface was undulated, and thereby accommodated a greater variety of subjects. The soil in which the roots were was never dry nor wet, but a uniform cool and moist condition prevailed, and in this the plant grew and flowered as well as increased. Some large pot plants were equally satisfactory and very pretty when the golden yellow blossoms were expanded. Where the moist conditions cannot be given, this pretty species will not mind a rather shady position in good soil in the rock garden.—E. J.

PUBLIC GARDENS.

Recreation ground for St. Albans.—Mr. and Mrs. Charles Woollam have given a recreation ground to the St. Albans City Council for the use of the inhabitants. The land, which is near the centre of the city, is seven acres in extent, and is a most valuable gift. This is the second recreation ground presented to the city, the Clarence Park having been handed over to the Corporation by Sir J. Blundell Maple, M.P., four years ago.

The Assistant Director of Kew Gardens.—The Colonial Secretary, says the *Pall Mall Gazette*, having appointed Dr. Morris to organise the new Botanical and Agricultural Department for the Windward and Leeward Islands, the post of assistant-director of the Royal Gardens at Kew becomes vacant towards the close of September. So far as can be ascertained, it seems doubtful whether the vacancy thus created will be filled up for some time to come. The assistant-directorship is worth £700 per annum, and Dr. Morris goes out to the West Indies at an initial salary of £1000 per annum, exclusive of travelling and other allowances.

Roses deformed.—Can any Rose grower explain the cause of the double and treble centres so common with Rose blooms this season? Is the dry winter, the late cold spring, or insect pests to blame for this disfigurement?—B. D. K.

Drying flowers.—Is there any way of pressing flowers, especially blue ones, by which they retain their colour when dry?—C. B. C.

Names of plants.—*Evelyn*.—1, the Lizard Orchis (*O. hircina*); 2, *Betonica grandiflora*.—*Birkdale*.—Morning Glory is the English name for the genus *Ipomœa*.—*W. Moody*.—*Cyrtanthus* McKeni. —*E. M.*—*Hatchinsia alpica*.—*F. M. B.*—*Inula britannica* (Linn.).

THE GARDEN.

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STOVE AND GREENHOUSE.

ACHIMENES.

THESE pretty plants are not so much grown as formerly or so well cultivated in the majority of instances, and I was the more pleased to see a fine lot of the old Mauve Perfection flowering finely in quite a cool greenhouse recently. One of the greatest drawbacks to their culture is, that being usually cultivated in rather warm, moist houses, they soon suffer when brought into a dry or cool conservatory. If they were grown cooler and in rather more light from the first the foliage would be harder, and probably the flowers would not be so likely to drop. Being so easily grown and taking up practically no room during the winter, they would prove very useful in gardens where plant houses are small and few and the majority of the plants for decoration have to be grown as best they may in the fruit houses. Dry roots are obtainable in spring, and should be potted for succession during February, March, and April, or even a little earlier where a display is looked for in late spring. They are grown in a variety of ways, pots, baskets, or pans being used, and specimens in 9-inch pots, made up by shifting corms that have been started in the 3-inch size, are very pretty in summer. Perfect drainage of the pots, both for starting the corms and for flowering, is essential, for though the roots delight in ample moisture, they cannot stand anything like closeness or a waterlogged state. For this reason use light soil in an open condition, dried cow manure broken in lumps and leaf-soil being added to light fibrous loam. The corms may be buried about an inch below the surface, a good sprinkling of silver sand around them preventing their decay. Give very little water until the top growth is getting strong, but after this a full supply is needed. The plants like a partially shaded position, not too far from the roof-glass, as it is important the stems be not drawn. It is not advisable to give permanent

shading, a piece of white garden net of rather open mesh being the best protection. In no case must the sun shine direct on the foliage, but in ainery or early Peach house the foliage acts as a sufficient break. After the flowers are past and the growths begin to lose colour, dry them off gradually in a good light, remove the corms from the soil and place in boxes of silver sand in a cool, dry house, but not near the pipes, where the heat may cause shrivelling.

H. R.

Pelargonium Achievement.—This Pelargonium, which received an award of merit on July 26, furnishes an illustration of the manner in which some names crop up from time to time, and form a very fruitful source of confusion. For instance, the name of Achievement has been previously borne by at least three other varieties of Pelargonium, and as I am speaking only from memory, it is possible that others might be unearthed. The varieties that suggest themselves at the present time as bearing the name in question are, first, a show variety, for which the late Mr. Charles Turner received a certificate in the early 70's, and which was popular for a long time; then a second show, also, I think, one of Mr. Turner's, which is still largely grown, it being one of the most brilliant of all the show varieties, the one drawback being that few flowers are borne in a truss. Besides these a tricolor of the same name was very popular when this class of Pelargoniums was grown by nearly everyone, though I have not met with it of late.—H. P.

Utricularia Endresi.—This pretty plant is not so much grown as it deserves to be, the showy lilac Orchid-like blooms being a welcome addition to the list of stove flowers just now. The plant requires care in growing, not being of a very vigorous habit or able to withstand sudden atmospheric changes. The leaves proceed from a small creeping rhizome which roots freely into a rough, open compost, such as is liked by epiphytall Orchids. Sphagnum Moss and a little peat with a plentiful supply of some hard material, such as ballast or charcoal, suit it admirably. From the time the growth starts in spring the roots should never be dry, the plants

being hung up in a moist stove heat and shaded from the sun. Growth will be rapid, and flowers will appear in plenty in due course. The plant is propagated easily while in active growth by separating the little corm-like growths from the rhizome and growing singly in small pots until the roots gain a hold, when they may be massed. One of the most frequent mistakes in culture is drying the plant too much during the resting season, for, though deciduous, the root-stock or rhizome is not strong enough to stand a long drying.

Rhododendron Nuttalli.—This Rhododendron, illustrated and referred to on page 106, is remarkable from the bright tints that the young foliage assumes, at least when it is grown under glass. Unlike some of the Himalayan species, such as R. Aucklandi and R. barbatum, the strap-shaped scales that surround the leaf-buds and hang down when growth recommences are not brightly coloured, but green. This, however, is atoned for by the bright hue of the expanding foliage. The upper part of the young leaves is densely covered with small rosy purple scales, which give them quite a velvety appearance, varying in tint according to the standpoint from which they are viewed. On the lower half of the leaf these scales are much less numerous than on the upper and of a rusty brown colour. The rich hue of the young leaf is a good deal influenced by the position of the plant, as it is far brighter when fully exposed to light and sunshine than it is if at all shaded. Rhododendron Nuttalli is more tender than some of the Himalayan species, and it also commands a higher price than many of them, but it is such a grand subject for planting out in a large conservatory that it must be assigned a place among the finest members of the genus.—T.

A few distinct zonal Pelargoniums.—It is now some years since that distinct zonal Pelargonium Souvenir de Mirande was raised and distributed, and it proved to be the commencement of quite a new race, one of which, Mme. Jules Chrétien, was some three or four years ago thought highly of. Since then numerous other distinct forms have been raised, chiefly on the Continent, some of which are certainly quite a break away from commonly-grown varieties. The following were recently noted as very desirable:

Distinction, cherry-red at the edges, becoming lighter towards the centre, which is almost white: Francois Coppé, much in the same way, but altogether brighter, with a slight violet lustre in the middle of the petals; Dalila, a distinct shade of light red at the margin, gradually paling towards the centre; and Adolphe Brisson, a kind of carmine-scarlet, lit up with violet around the centre, while it has a light-coloured eye. There are also double-flowered forms of this class, one of which, Apotheose, is of much the same colour as Adolphe Brisson, but it is somewhat paler. The colours and tints of these varieties are difficult to describe, but their distinct character is at once seen. To these may be added one or two of the spotted varieties mentioned a few weeks since.—H. P.

Ceropegia Woodi.—Outside of botanic gardens Ceropegias are rarely seen, and most of those in cultivation are more or less of a climbing nature, but the species under notice forms quite a low-growing procumbent plant, whose thin, wiry stems spread for some distance along the ground. They are furnished with small, orbicular-shaped leaves of a thick fleshy nature. These leaves are on the most vigorous examples about three-quarters of an inch across, but in most instances they are less than that. While the surface of the leaf is green, it is generally so freely marbled with white on the upper surface as to be almost entirely of this latter hue. The flowers, which in some species are very pretty and extremely curious, are in *C. Woodi* much less striking than in several other kinds. They are very plentifully borne, but are little more than an inch long, the tubular portion being pink, while the upper part is brownish purple. When creeping along the ground the slender branches root freely, and often produce small globose tubers at intervals. This *Ceropegia*, which is a native of Natal, succeeds better in the stove than in a cooler structure. Grown in as upended pan or basket it will hang down for about a couple of feet, and its distinctive features are in this way brought prominently under notice. So treated it is just now in good condition in one of the stoves at Kew.—H. P.

Thunbergia alata.—The different varieties of this annual climber are all extremely pretty summer-flowering plants, that may be used in many different ways. Planted out of doors they are very attractive, particularly during a warm summer, and as climbing plants for the greenhouse they are also very pretty. Besides this they are first-rate subjects for growing in suspended baskets, and in this way their brightly coloured blossoms are seen to very great advantage. These *Thunbergias* are readily raised from seed sown in heat in the spring and grown on freely afterwards, being hardened off as they increase in size. A fairly open and moderately rich soil suits them best, and to keep down red spider they should be frequently syringed. The typical *T. alata* has yellow flowers, but there is also a variety (*alba*) in which they are white, and another (*aurantiaca*) deep orange with a purple throat. This last is perhaps the showiest of all, the flowers being so richly tinted and the contrast between the two colours so marked. *T. alata* is a native of South Africa, from whence it was introduced in 1823, and seeds of the several varieties can be obtained from most dealers in such things. Many of the woody species, too, are magnificent climbers for the stove. Some of them require considerable space to be seen at their best.—H. P.

Bouvardia leiantha.—The garden varieties of *Bouvardia* with their larger blossoms have now almost ousted this (one of the original species) from cultivation, yet it is remarkably free flowering, and the blossoms so brightly coloured that it merits more attention than is now bestowed upon it. Introduced from Mexico in 1850, this *Bouvardia* is quite an old plant, and in the early days of my gardening career it was a very popular one. *Bouvardias* as a class are generally regarded as winter-flowering plants, yet many of them will bloom during the summer, especially if they are planted in the open ground. For summer-flowering this is one of the best, and for button-holes

and similar purposes at this season it is very useful. Old plants of the several kinds that have done flowering and are no longer required may, instead of throwing them away, be planted out of doors early in the summer, and from then till the autumn they can generally be depended upon to yield a few useful sprays of blossoms whenever required. *Bouvardias* as a class suffer more than most plants from the heavy sulphur-laden fogs experienced in the neighbourhood of London during the autumn and winter months, more especially those forms with hairy leaves. Such havoc is wrought by these fogs, that I have seen a house of *Bouvardias* in flower every leaf of which has been disfigured after a spell of fog.—H. P.

NOTES AND QUESTIONS.—STOVE.

Lachenalia glauca is perhaps the most strangely coloured flower of all this tribe, the exact shade of which is scarcely accounted for in the specific name here given. In truth the colour would appear rather a mixture of steel-blue and green—certainly a most uncommon shade in any flowering plant. Some examples of this interesting species are now flowering at Kew in the Cape collection of mixed bulbous things.

Stenomesson incarnatum.—This bulbous plant, of which a coloured plate was given in THE GARDEN a couple of years ago, is now in flower at Kew, while in another garden I recently noted a flowering specimen of the allied *S. trichromum*. *S. incarnatum* pushes up a stout scape to a height of a yard or thereabouts, while the flowers, which are each nearly 6 inches long, are tube-shaped, spreading somewhat towards the mouth. The exterior of the tube is a kind of salmon-red, while the spreading portion is yellowish, with the extreme points bright green.—H. P.

FRUIT AND VEGETABLE CROPS.

As usual, we are enabled to publish, owing to the kindness of our correspondents, returns of the fruit crops from almost every county in England, Scotland, Wales, and Ireland. Owing to the great quantity of bloom in the early spring it was thought that the fruit crop would be a heavy one. This generally is, as will be seen by the reports, not the case. The very dry winter and the long cold spring have no doubt also had a good deal to do with the deficiency. Plums, too, are very scarce. Strawberries were very late, many of the blooms failing to set owing to the sunless time when the plants were in flower. It will be seen that the fruits of Royal Sovereign rotted very badly in some places, this no doubt arising from the large leaves which this variety has. In future it would be advisable to allow a little more space between the lines and also between the plants. Latest of All has proved in most cases a valuable late kind, its only fault being that it does not colour well to the point. The crops of Currants, all varieties, have been excellent, as also Raspberries, among which the variety Superlative holds first place. Wall fruit, including Peaches, Nectarines, and Apricots, is very scarce, the blossoms having been cut off when fully open.

The vegetable crops are, as a rule, good, Peas especially having done well in many places, while in others the haulm has been badly attacked by mildew. We hope to give in the course of a few weeks the opinions of the leading growers as to the varieties of Peas which succeed best with them. Tomatoes where grown in the open have had a bad time, and we fear the outdoor crops, unless against walls and protected with sashes and such like, will not ripen.

— All things considered, the fruit crops of 1898 have been and are distinctly disappoint-

ing. Never was there a better prospect as far as the condition of the trees was concerned, but once more it would appear that it is possible to have abundance of bloom and yet but little fruit. The orchard and garden trees were truly a beautiful sight when in bloom, and, in spite of the superabundance, the flowers appeared to be strong and perfectly formed. Then came a long spell of unfavourable weather, more especially cold, chilling winds, and this militated seriously against the prospect of good crops generally. It is not frost that is to blame, as it is noticeable that the crops are the heaviest in many low-lying and sheltered positions or where spring frost most often works serious damage, and the lightest in raised exposed situations. As far as my experience goes, and I have been through several counties lately, there are no highly favoured districts, as was the case last year, when the crops were very heavy in some parts of Gloucestershire and adjoining counties and light nearly everywhere else, but there are sprinklings of fruit everywhere with here and there a tree heavily laden. The chilling winds, coupled with an absence of rain, were all in favour of insect pests, and I never remember seeing so much blight before. Apple blossom was badly infested by aphids before it expanded, the leaves, though in a less degree, suffering from the same pest, while the majority of Plum trees were much overrun by the Plum aphid, the older leaves still presenting a curled, malformed appearance. On all sides we hear complaints of what the catpillars did to the fruit trees, and the American blight is more in evidence, probably, than ever before. Garden as well as orchard trees have suffered from insect pests and diseases of a fungoid nature. In one instance nearly all the Pear trees are badly affected by the leaf rust, and in another garden Pear and other fruit trees have been much disfigured by the nasty slug-worm. Red spider is very thick on stunted Apple trees, Gooseberry bushes and Strawberry plants. Apricots, Plums and Cherries have been more addicted to gumming than usual, and nearly every primary leaf on Peach and Nectarine trees became blistered and has disappeared. Such a series of misfortunes is enough to dishearten cultivators, especially when they find, as they are beginning to do, that many of their Apples and Pears have a grub in them—a kind of last straw.

As it happens, fruit growers have in numerous instances long since accustomed themselves to regard the open-air fruit crops as somewhat precarious, and those who are wise invariably prepare for the worst. Preparing for the worst ought to include a proper course of spraying with insecticides and fungicides, notably with Paris green as an insecticide of the best and cheapest, and if this spraying were to become general, compulsory in fact, better crops of sound fruit would inevitably result every season. Then, again, trees not in a robust state of health ought to be more often fed at the roots. It pays to do this. I will cite an instance. In the two gardens at Cardiff Castle Apple and Pear trees occupy a considerable amount of space and are in a very healthy state. There is scarcely a failure amongst them, and grand crops of Apples and Pears, all good varieties, will be gathered from them this season. All the ground is cultivated, and as the spaces between the trees are cropped with vegetables the fruit trees naturally get their share of the fertilisers used. Shelter may have been partly conducive to this happy state of affairs, but only a portion of the most heavily cropped trees is sheltered, and to good cultivation by Mr. Pettigrew must much of the success be attributed.

In the vicinity of Cardiff the trees in grassed-down orchards are carrying but poor crops. It does not follow that trees generally on cultivated ground are carrying good crops, and this the market growers in the home counties know to their cost, but the healthiest, best and as a rule most productive trees are to be found in cultivated gardens and orchards.

APPLES, the most important fruit of all, are, as before stated, more evenly distributed as regards crops this season than they were last year, and it is worthy of note that the varieties with a strong constitution and with large bold leaves were best able to withstand the trials of the season. Warner's King would appear to be the Apple of the year, but Blenheim Pippin, Peasgood's Nonsuch, Bramley's Seedling, Kentish Pippin, Lord Grosvenor, Winter Codlin and a few other robust varieties have done nearly as well. At Wells Palace and in other gardens where Apple trees are planted against high walls the crops are highly satisfactory; not only are they heavy, but the fruit is large, good in form, clean and colouring well, and the question is, would it not be better to grub up many comparatively worthless Pear and Plum trees against various walls and dwelling houses and substitute Apple trees? I am strongly of opinion that it would. The long spell of dry weather has operated against Apple trees both in gardens and orchards, and at Powderham Castle, Devon, the heavy crops on garden trees have been saved by repeated waterings in addition to the annual mulching of decayed garden refuse, leaves and the like. Since the rains have fallen generally, a great improvement is noticeable in the Apples already in this and other districts.

PEAR TREES against walls are more plentifully fruited than they were last year, but the crops are quite as light in the case of bush, pyramid and orchard trees. In some gardens every wall tree is well furnished with fruit; in others those most exposed to easterly winds are cropped lightly. Much thinning out has been called for, and where neglected or where the trees are starved at the roots, the fruit is undersized and of little value. In a garden at Weston-super-Mare I took particular notice of the heavy crops of fine, clear skinned fruit, and learnt that they had received the full benefit of a good water supply over the trees as well as at the roots. They will pay well for this attention.

PLUMS are plentiful on wall trees sheltered from the colder winds, and the old Victoria seems to have come out of the trying ordeal remarkably well, even trees in the open having a good sprinkling of fruit on them. According to information received, Plums are much more plentiful on trees in market gardens generally than they were last year, and a fairly good prospect may be the cause of foreign Plums, French and Italian, being put on our markets cheaper than they were in 1897.

CHERRIES have been as variable as the other fruits mentioned. Wall trees in places were heavily cropped, the never-failing Morellos doing well generally, but I have seen but few standards carrying profitable crops.

APRICOT trees have been thinly cropped in most gardens, but the fruit has ripened so beautifully as to a certain extent to compensate for shortness of crop.

PEACH TREES flowered well, and where the foliage could be preserved fairly well thin crops are observable. Nectarines would appear to be more heavily cropped than Peaches.

SMALL FRUITS, on the whole, have done well. Gooseberries were a very heavy crop, and so many sound, ripe fruit as at present available are rarely seen. Red and White Currants

have also done well, but Black Currants have been comparatively scarce. They fetched good prices in the market, and if this falling off in the supplies is due, as I believe it to be, to the ravages of the Currant bud mite, they will be even scarcer in years to come. Market growers are beginning to fight shy of them. The heat and drought seriously affected the crop of Raspberries, and the supply has been short accordingly. Strawberries flowered grandly and were not injured by frosts, but they ripened late and the season was short. Royal Sovereign was the variety that gave the best results, and Noble will soon be a thing of the past. Latest of All suffered from red spider attacks, and those who would have late crops ought not to depend too exclusively upon this variety, the old Oxonian or Eleanor better defying a dry season, producing moderately heavy crops of large fruit of fairly good quality.—W. IGGULDEN, *Frome, Somerset.*

SOUTHERN.

Englefield, Reading.—In answer to your letter regarding the fruit crops here, I beg to say that Apples are a middling crop, not at all what I expected at blooming time. Currants, red, white, and black, are good. Cherries, Apricots, and Gooseberries are also good, but Pears are very poor. Nectarines and Peaches are good; Plums only a fair crop. Raspberries and Strawberries have been good.

Broccoli was very good in the spring. Cauliflower has been good. Potatoes are good and free from disease, and Runner Beans are looking well.—J. COOMBS.

Gosfield Hall Gardens, Halstead.—Apples are under; Pears and Plums very scarce; dessert Cherries average, and Morellos very scarce. Peaches and Apricots are average crops. Small fruits, including Strawberries, have been good, but Nuts are poor.—A. KEMBER.

Ottershaw Park, Chertsey.—Apples are an average crop, but Pears in the open are much under, most of the blooms having been killed by the late frosts. On walls there is a good average crop. Peaches, Nectarines, and Apricots are a good crop. The fruits wanted much thinning, and the trees are looking well. Currants and Gooseberries are a good crop and fine in flavour. Strawberries were an average crop, of good flavour, but very late. Plums are an average crop. Cherries poor.

All vegetable crops have been good, but late, and are now suffering from want of rain. Early Potatoes are good but small. The second earlies are turning out well, and are heavy crops. Late ones in gardens and fields are looking very well.—T. OSMAN.

Bearwood, Wokingham.—The fruit crop here and in the neighbourhood is a fair average one; Apples very good, Pears thin, also Plums in places. Peaches and Nectarines are not so good as last year, Apricots thin, Cherries good, Strawberries very good. Bush fruits are plentiful but very small, the blight having been very troublesome on all kinds of fruit owing to dryness of soil through the winter months, and a cold, dull May following crippled the setting of most fruits.

Vegetables of most sorts, both early and late, are excellent. Early and late Potatoes are also good and free from disease.—JAMES TEGG.

Mentmore, Leighton Buzzard.—Apples are under average, there being very few late varieties. Stirling Castle, Mr. Gladstone, Lane's Prince Albert, Keswick Codlin, Seaton House, Ribston Pippin, and one or two others have good crops, and the trees are growing well. Pears are much below an average crop. Strawberries are an excellent crop of good fruit, Latest of All, Oxonian, and Elton Pine being the best late varieties. Royal Sovereign has again been the best main-crop Strawberry. I feel sure this will soon take the place of Sir Joseph Paxton.

Currants have been good and plentiful. Plums are a very poor crop, much below average.

All kinds of vegetables have done well. Peas have been an excellent crop. Potatoes are very good and free from disease. Ninety-fold has been a grand crop of fine, handsome tubers, and not a diseased one to be seen. Windsor Castle is again fine here, and it keeps good till late in spring. It is too early to report on Up-to-date, but the tops are 5 feet high and very healthy. Where the ground is good, all kinds of vegetables are doing well and give every prospect of an abundant supply.—J. SMITH.

Claremont, Esher.—The fruit crop on the whole must be described as above average so far as this garden is concerned. I have not had opportunities of ascertaining prospects in the neighbourhood. Apples are above average, not coming up to the standard indicated by the wonderful profusion of bloom, but yet a very good crop. Trees are generally clean, some few being affected by a black mildew. Apricots are below average, but the fruit is large and of excellent quality. Cherries, especially dessert varieties, are a heavy and long-sustained crop. Peaches and Nectarines are a trifle below average, a sharp frost destroying a considerable percentage of bloom, and very little thinning was necessary. There is, however, a very fair crop and the fruit is of excellent quality. Judging from those already gathered the crop will be late. I am (July 31) still gathering from Alexander and Waterloo. Pears promised wonderfully well, and the fruit appeared to set all right. It has, however, since dropped very much, and the crop is below average. Plums in the open are very scarce, but there are good crops of excellent fruit on protected walls. Outdoor Figs are a good average crop. It is seldom that Strawberries have been so good, and the crop held out well. The only drawback was the rotting of a good many of Royal Sovereign, the plants being too close together. I shall give them 30 inches each way in future. All small fruits are also plentiful and good. Aphis was an early visitor on Black Currants, and the fruit is dirty. Plums and Cherries were also badly attacked, and red spider has been very troublesome on Peaches and Gooseberries, necessitating in all cases copious and frequent washings to keep the trees in health.

Vegetables are good with the exception of Carrots. There is hardly a good bed of the April-sown long varieties in the neighbourhood. February-sown Short Horn kinds are all right. Potatoes turn out well, and at present are quite free from disease. Summer vegetables, as Beans, both dwarf and runner, and Marrows were very late; few of these, if *bona fide* outdoor grown, were fit for use until nearly the end of July. The same remarks would apply to Tomatoes. The outdoor crop is likely to be scanty unless facilities were at hand to push the plants along under cover until they were of a good size.—E. BURRELL.

The Gardens, Clandon Park, Guildford.—

Apples are only a moderate crop in these gardens, and in the immediate neighbourhood I think about the same, owing to the dry weather and cold nights. What there are, are falling off wholesale. Pears are a very light crop generally, but what there are appear to be very good, as up to the present there have been no signs of their falling off to any extent. I have three trees of Williams' Bon Chrétien that are not carrying many fruits, but what there are will, I think, be very good. The soil is heavy and deep, so that we are not suffering so much. Of Strawberries there has been a very heavy crop. The late rains filled them out, and at one time it looked like a record crop, especially as regards Royal Sovereign and Latest of All, both of which do exceptionally well here. Owing to the cold nights and lack of sunshine, Royal Sovereign and Noble rotted wholesale. Latest of All, not being so early, did not suffer at all, and the yearling Royal Sovereign were not so bad, as the thinner foliage allowed the fruit to dry. I did not get many Veitch's Perfection, but what there were were of

splendid flavour and fruit very firm. I think it will crop well when we get stronger runners next season. Stone fruit is rather below the average. Rivers' Early Prolific Plum is ripening on south and east walls, and the trees are thickly covered with nice-sized good-flavoured fruit, good for both cooking and dessert.

Vegetables are at the present time doing fairly well, but owing to the dry time are not growing very fast. Where the ground has been well worked and deeply trenched things are looking well, but where this has not been done, Carrots in many cases are burnt up like hay and other things are suffering. Early and mid-season Peas have been exceptionally good, but unless we get rain the late kinds will be almost worthless. Early Potatoes are very good. They are showing signs of ripening off now, and if we get too much rain they will probably grow out.—H. W. BLAKE.

Burton Park, Petworth.—Apples are a poor crop in this neighbourhood, in some orchards none at all. I have a nice crop of some late sorts at the bottom of an orchard, but the majority of the trees are bare. Pears are a light crop also, both on the walls and in the orchards. Cherries have been plentiful on walls, but on standards, where exposed, the crop is thin. Gooseberries, Strawberries, Currants and Raspberries have been abundant, though I hear that Black Currants in some quarters were scarce and the prices high. Strawberries had a short season and were very late in coming in, being fully a fortnight behind last season. Royal Sovereign was very fine and good.

All Potatoes about here look well, and there is every prospect of a good crop. Marrows and Beans (Runner and French) were very late in coming into bearing through the cold weather experienced in June. It was the 26th of July before I gathered the first dish of French Beans outside. Peas have been splendid. Onions in this neighbourhood have the mildew badly as a rule. All other crops, winter stuff in particular, look fairly well.—ALBERT E. GOODEN.

Syon House, Brentford.—The fruit crop may be termed an average one in this district. Apples are a disappointing crop, as with a bountiful promise all hopes were shattered by the very bad weather early in May, as the bloom was so badly injured. I have trees with some fruits on the sheltered side, and scarcely a single fruit where exposed to the cold blast. This may be termed a Codlin year, as these trees usually bear profusely every two years, and they are fairly laden with fruit, the heaviest croppers being Manks, Keswick and Lord Grosvenor. Some other cooking varieties are an average crop. Alfriston, Lane's Prince Albert, Lord Derby and Warner's King are good, whilst most dessert varieties are poor. King of Pippins, which rarely fails with me, is the heaviest crop, and there is an average crop of a few others, but many trees have not a single fruit, these, unfortunately, being the long keepers, and they will be a great loss. Pears, except in one or two instances, are a complete failure. My best crops are on a low south wall in a sheltered garden. Trees fully exposed are almost barren of fruit. I have good fruit on cordons of such varieties as Conference, Louise Bonne of Jersey, Durondeau, Beurré Diel, and Nouvelle Fulvie. Plums are as bad as Pears, as the crop is very poor. My best fruiters this year are Rivers' Early, Stint and Czar. Many of the trees on an east wall have not a single fruit. Apricots are an average crop, and the fruits are very good. These I usually get in abundance, but the crop is the lightest I have seen during the past ten years. Hemskirk and Breda are the heaviest crops this year. Of Peaches and Nectarines the crop is very light. The earliest Peach was Amsden June, gathered the third week in July. Waterloo, an excellent variety, followed closely. Strange to say, the American Peaches are this season the heaviest croppers, as Hale's Early is bearing a fine crop. On the other hand, I do not think we shall be the losers in the end in having less fruit on some kinds, as we mostly overcrop, and in a dry, hot season the trees are

apt to suffer. Nectarines are better than Peaches. The New Early is a splendid cropper, and will be one of the best wall fruits we have, Lord Napier giving a succession. This is fairly good; other kinds are much lighter. Cherries—I mean the dessert kinds—were never better. The trees have required much care to keep down insect pests, but the crop and quality have been very good. Doubtless owing to their early setting, they escaped the cold winds in May. Morellos on north walls are not so good, as they were later in flowering. Strawberries have borne well. I grow most of the crop as yearlings. Grown thus the crop has been very heavy, though later than usual, and this will make planting late for next year's supply. Raspberries have had a short season, owing to drought and heat, and, though a full crop, the plants need rain badly. Superlative is by far the best in a light, poor soil. Small fruits have been an average crop; Currants good; Gooseberries a thin crop, the trees having suffered when in bloom. Trees on walls are much better.

Vegetables have been excellent. I have had the heaviest crops of Peas I can remember. Potatoes, though later than usual, are a medium crop. Ninetyfold is by far the best early Potato this year. This also is very early in spite of having a large top. It is less affected by frosts than the Ashleaf and is most useful. I have not tried late varieties, but they look well. Mid-season kinds are good and so far free of disease. Ideal is well named; it is a beautiful tuber. The Broccoli and Cauliflower crop was never better; the latter, though late, has been good, and this year I have had a bountiful supply. Tender vegetables, such as French Beans, have been a troublesome crop, as cold nights and frost crippled the earliest plants in spite of protection. There is now an abundant supply, but to keep them going I am obliged to water overhead freely at sunset to keep down red spider. There has been no lack of other things, such as salads and Spinach. Celery has been difficult to get out, owing to heat and drought, but it is now making good progress. In spite of the drought, root crops look fairly well where the soil was given good cultivation. To sum up as regards the vegetable crop, there has been no lack of any kind. Delay in planting will affect the winter and spring supply, and to do the plants justice means adding greatly to labour, never any too plentiful in a private garden.—G. WYTHES.

Kingston, Surrey.—Having during the past month been all over Surrey, my report of the fruit crops is not a roseate one. Apples are very partial. Here and there a few trees are heavily laden, but these are the exception. Where so fruited the lack of sufficient moisture at the roots is causing many fruits to fall, and the rest will be relatively small. Generally the crop is a very thin one, a very long way below what the spring bloom promised. The trees, however, have not appreciably suffered from maggot, and seem to be very clean. Pears are even less in quantity than are Apples. Trees habitually heavily cropped have but one fourth or even less of the average quantity. Such fruits as these are should be fairly good. The season does not specially favour any one variety or form of tree. Even old and regularly fruiting common varieties are no better cropped than others. Plums seem to be even scarcer than Pears, although I have seen here and there some trees well laden, but the fruits are late and small. In one garden in a very warm sheltered position, Damsons on numerous trees were a heavy crop, but that was a rarity. Cherries have been a good crop almost everywhere. Taking trees generally, I have seen little evidence of any form of insect or fungoid attacks, and think, except where trees are very exposed to cold sweeping winds, that they are fairly clean. Because the season so far is dry, there should be no excessive wood growth, and good bud formation. Still, we may have in the autumn heavy rains that would cause new and sappy wood to be formed, which would be detrimental. For the benefit of the trees and a possible next season's crop, it would be better if no heavy rains came until

after leaf-fall. Bush fruits almost everywhere have again shown that they are the most reliable and profitable to grow. Gooseberries have everywhere been a great crop. I have never seen heavier at any time, and the fruits have been fine. Both red and white Currants have been the same. On the bushes and at the scores of county exhibitions I have attended I have found these fruits very fine and good. No doubt this is largely due to the fact that the soil seems to have been moister some 12 inches to 14 inches down than it has been lower, where the roots of tall trees run. Raspberries, where properly grown, too, have been very good and abundant. Strawberries on fairly holding soil have been an excellent crop, but on light loose porous soils they soon gave out. Much depends on the way the soil is prepared for the plants, as some growers stick them in on merely dug ground, whilst others, understanding their requirements, trench deeply and manure liberally, hence they get fine plants and good crops. Royal Sovereign seems to have found its way already into many of the cottage gardens, for cottagers now are very keen to pick up the best they can of good things. The Nut crop is a moderate one. Sometimes both Walnuts and small Nuts are plentiful, in other cases very thin. The crop of cultivated fruit has so far not been all that could be desired, but it might have been much worse. The stone fruits on walls have been fairly plentiful, but these trees suffered more than any others in the spring from fly and blister. It is thus seen that uncovered walls have their drawbacks.—A. DEAN.

Cowdray Park, Midhurst.—Apples are about half a crop. In sheltered places some kinds carry a full crop. Pears on walls are fairly good where protected with nets when in bloom. Trees in the open are very thin, except a very few kinds. Peaches are excellent and trees clean. The fruit had to be thinned considerably. Apricots are an average crop. Plums on sheltered walls are a fair crop where protected when in bloom, but orchard trees are very thin. Sheltered trees in cottage gardens have a fair crop. Cherries are a full crop. Bush fruits are very good, also Strawberries. Nuts are a very full crop, while Walnuts are a failure.

Vegetables generally are up to the present good, but are beginning to suffer from the want of rain. Peas have been very good on well-tilled land, but they are now quite drying out where not watered. For the same reason Runner Beans are not setting. Broad Beans are very good. Carrots are more than usually clean, also Onions. Potatoes will not be large on this thin land, the haulm in many places drying up before the tubers are half-grown.—F. GEESON.

Wycombe Abbey, High Wycombe.—Apples are a poor crop, trees very much blighted. Pears are good. Plums are only fair, the trees in some places much blighted. Cherries have been large and good in quality; Morellos deficient. Peaches and Nectarines are good, the early ones fine and of good quality; Apricots poor, quality good. Small fruits, including Gooseberries, Black and Red Currants, are very fine.

In the vegetable department the effect of want of rain is plainly visible amongst all late-planted and sown crops, and will doubtless materially affect the yield of most of them, whereas the early-planted and sown ones, being more firmly established, will withstand the aridity better and produce far better results in the end. At the present time early-planted Potato crops look very promising, and the crop now being lifted, although not a heavy one, is, as far as quality goes, excellent. Cabbage, Cauliflowers, early Peas, Broad Beans and Shallots have done well, and early planted Brussels Sprouts, winter greens and Veitch's Autumn Giant Broccoli coming in are good. By reason of the prolonged drought having in many places considerably deferred the secondary plantings of the winter stuff, this will probably render the supply of it more scarce next spring than is usual. To meet an emergency of this kind more early Cabbages and Coleworts should be planted.—G. T. MILES.

FLOWER GARDEN.

A HEREFORDSHIRE GARDEN.

DURING the early days of June I was afforded an opportunity of inspecting the interesting and beautiful garden at Underdown, near Ledbury, the residence of Mr. Spencer H. Bickham. Passing through the quaint town, with its numerous picturesque old houses that face the street with gables of Oak and plaster, a gradual ascent brings one to Underdown, from whence an extensive view of the surrounding country is obtained, whilst the house itself is encompassed by gardens in which a choice and carefully tended collection of hardy plants flourishes. The soil is evidently well adapted to the cultivation of Roses, some huge-headed standards being in vigorous health, one specimen of

with which it was associated. *Achillea rupestris* was also in full bloom. Of *Androsaces*, *A. foliosa* and *A. lanuginosa* were both flowering, while *A. carnea*, *A. sarmentosa*, and the Himalayan variety of *A. villosa*, though not in bloom, were particularly healthy in appearance. One of the brightest spots in this portion of the garden was a large patch, a yard or more across, of *Æthionema grandiflorum*, a breadth of bright rose-pink. *Antirrhinum glutinosum*, trailing over the rocks, was a mass of flower, while of *Anemones*, *A. alpina*, *A. alpina sulphurea*, *A. narcissiflora*, and *A. pennsylvanica* were blossoming, as was *Anthyllis montana rubra*, while the blue *Aphyllanthes monspeliensis* was bearing flowers on its Rush-like leafage. The little *Arenaria balearica* covered the stones with the delicate tracery of its countless minute white blossoms, and the

Bickham, the blooms of which are of an intense shade of pink. *Dodecatheon splendendum* was in fine bloom in a lower level of the garden, and the Edelweiss (*Gnaphalium leontopodium*) gave promise of flower at an early date. *Erigeron Roylei* was bright with its purple flowers, and *Erinus alpinus*, which in common with *Linaria alpina* grows freely from self-sown seeds, was also blooming. The creeping form of *Genista pilosa* was covering the rocks with blossom-laden shoots, and a large plant of *Geranium argenteum* was in flower, as were *G. cinereum*, *G. macrorrhizon* and *G. subcaulescens*. In the bright morning hours the Sun Roses (*Helianthemum*) were a delightful picture, the plants being clothed in varied shades of yellow, red, pink, and white. *Hutchinsia alpina* was producing its flowers, as was *Iberis Pruiti*, while *Libertia formosa* and *L. grandiflora* were also in bloom.

The light blue flowers of *Linum narbonense* crowned its slender stems, and *L. monogynum* was also in bloom, as were *Lithospermum Gastoni* and *L. prostratum*. *Lychnis Lagasce* had taken up its position on an old wall, where it was flowering freely. *Maianthemum* (*Convallaria*) *bifolium* was bearing its delicate white bloom-spires, while the brick-red flowers of *Malva lateritia* and the pinker blossoms of *M. Munroana* were studding the prostrate foliage. *Omphalodes Lucilæ* was the picture of health, and fine plants were bearing their porcelain-blue flower sprays in quantity. *Onosma tauricum* seemed also perfectly at home, and hung its pendent yellow bells from a higher portion of the rockery. *Oxytropis campestris* and *O. strobilacea* were in flower, as were *Pentstemon glaber* and *P. Scouleri*, the latter growing in large masses 2 feet and more across. The flowering season of the dwarf *Phloxes* was past at the time of my visit, but *Ramonda pyrenaica* was in fine bloom on a flat bed, it being found to succeed perfectly at Underdown when planted in this manner. Of *Saxifrages*, many varieties of the mossy and encrusted sections are grown. Amongst those in bloom, *S. Cotyledon*, *S. lantoscana*, *S. Macnabiana*, *S. pyramidalis*, and *S. Wallacei* were notable. Large patches of *Silene alpina* had a pretty effect. *Sisyrinchium bermudianum* and *S. angustifolium* were in flower, as was *Scutellaria alpina*, which seeds itself freely; while of *Veronicas*, *V. Guthriana*, *V. Haasti*, *V. Hulkeana*, *V. pinguifolia*, *V. prostrata* and *V. saxatilis* were adding their tints to the display.

In the borders assigned to the general collection of herbaceous plants much floral beauty was also present. The hybrid *Aquilegias*, with their long-spurred blossoms of suavely graduated tints, purple, blue, lavender, saffron, sulphur and white, the large-flowered *Anchusa italica* with its bright blue, *Asphodels* that reared their white spear-heads in groups against an evergreen background, and *Camassias*, belonging to the same order, filled important



Saxifrages at Underdown, Ledbury. From a photograph by Mr. S. W. Fitzherbert, Torquay.

Homère, with a stem circumference of 7 inches, having a head 8 feet in diameter. Paul's Carmine Pillar, climbing over a trellised arch, was in full bloom, and presented, with its numerous large single blossoms, a most lovely sight. The Austrian Briers, both copper and yellow, allowed to grow at will, sent tall flower-laden shoots 7 feet and more into the air, and a plant of *Clematis montana* garlanded the dark boughs of a great Yew with ivory-white stars.

The rock garden, which is singularly well furnished and shows but few traces of the fragments of rock with which it has been fashioned beneath the luxuriance of flower and leafage, contains many rare and charming plants. *Achillea argentea*, with its white flower-heads and silvery foliage, formed an exquisite contrast to the blue of *Lithospermum graminifolium*,

more robust-growing *A. grandiflora* was also flowering well. *Aster alpinus* presented a spot of soft colour with its lavender-purple blossoms, and *Astragalus hypoglottis alba* was producing its Vetch-like blooms. *Bellis rotundifolia cœrulescens*, which was in flower, reproduces itself freely from seed, and *Bellis sylvestris* was bright with crimson blossoms. *Cardamine asarifolia* was in bloom, as was *Coronilla iberica*, and *Crepis sibirica*, which is rather common-place in appearance, notwithstanding the commendation it has of late been accorded, was bearing its bright yellow flowers. *Cypripedium spectabile* was growing strongly, and appeared exceptionally vigorous, while of the *Dianthus* family, *D. alpinus*, *D. caesius*, *D. deltoides*, *D. petraeus*, and *D. plumosus* were in flower, as was a striking dwarf hybrid raised from seed by Mr.

places in the decorative scheme. The Cistuses in themselves were a host, being represented by *C. albidus*, *C. creticus*, *C. crispus*, *C. florentinus*, *C. laurifolius*, *C. purpureus*, and *C. salvifolius*, some of them being fine bushes smothered in blossom. A pretty variety of *Campanula glomerata* named *pallida* was in flower, and the bright orange of *Cheiranthus Marshalli* was a most effective note of colour in the borders, where *Chrysogonum virginianum* was also in bloom, as was *Coronilla glauca*, which in this garden lives through the winter in the open. The tall *Doronicums* were golden with blossom, and many bushes of *Eurybia Gunni* were white as snowdrifts, not a particle of green being visible to break the sheet of bloom. *Erigeron bellidifolius* was flowering, and *Heuchera sanguinea* was bearing its coral-red bloom-spikes. Clumps of *Inula glandulosa* were remarkably strong, some being 3 feet in height and blossoming profusely. The Flag Irises of many varieties were producing their showy flowers, and *Iris sibirica* had also expanded its blossoms. Lilies are grown in tubs, sunk level with the surface of the border, in order to prevent the soil in which they are grown being impoverished by the roots of the trees that surround the beds dedicated to their use. They appear well suited by this arrangement, and give promise of a satisfactory blooming period. The larger form of St. Bruno's Lily (*Anthericum liliastrum majus*) was in flower, as was the bright *Lychnis Viscaria splendens* fl.-pl. The tall *Linaria macedonica*, with light yellow blossoms, is a handsome though seldom-seen plant for the wild garden or back of herbaceous borders. *Melittis melissophyllum* and *M. m. grandiflorum* were also in bloom, as were *Mertensia sibirica* and *M. virginica*. *Narcissi* are naturalised by the thousand in the grass and are also grown in beds, some of these being surfaced with mossy Saxifrage. This plan is, to all appearance, eminently successful, as the leafage of the *Narcissi* appeared strong and healthy, while it possesses the æsthetic advantage of presenting the Daffodils rising from a green carpeting instead of from the bare earth. The white-flowered *Orobis sylvestris* had a pretty effect, others of the same family in bloom being *O. aurantius*, *O. niger*, and *O. lathyroides*. *Phyteumas*, *Polemoniums*, and *Pyrethrums* were also flowering; the giant Oriental Poppy lit up the borders with its blaze of vermillion, and *Papaver pilosum* spread its fragile blooms of apricot-pink, while the double white Rockets filled the air with fragrance, and their single sisters stood out in high relief against the dark Hollies. A splendid plant of the Californian Bush Poppy (*Romneya Coulteri*) looked the very picture of health, and gave evidence of a bountiful supply of its scented white crêpe-like blooms during the summer. *Salvia pratensis* was in bloom, and a long group of finely-grown Solomon's Seal, arching the white-belled stems beneath the trees, made a reposeful picture. Of Starworts there is a collection of sixty or seventy varieties, many of the best having been raised from seed by Mr. Bickham. *Thalictrum aquilegifolium* was in full flower, the pure white and lavender varieties being represented as well as the ordinary parchment-white type. Globe Flowers (*Trollius*) in variety were also in bloom, as were *Veronica gentianoides* and *Verbascum phoeniceum* in many colours, one of a purple-maroon shade being very striking.

In a sheltered corner a Fern garden had been fashioned, in which the best forms of English Ferns, as well as North American, Japanese, and New Zealand species, were flourishing. The Oak Fern was growing thickly, and *Adiantum pedatum* had thrown up vigorous fronds,

while in one portion hardy Orchises were flowering. S. W. F.

THE CLEMATISES.

(Continued from page 137.)

SECTION IV.—AZUREÆ.*

THE *C. azureæ* are of Japanese origin, and were introduced into Europe by Siebold along with *C. florida* bicolor. During the year 1838 the type made its first appearance in gardens. The forms of *C. azureæ* are all climbers, frequently of small stature, but attaining possibly a height of 2½ yards. Their leaves are fairly large, borne upon long, tendril-like stalks, smooth and green on the upper, and lighter green on the under side. The single flowers are borne upon peduncles of greater length than the leaves; they have six to eight large sepals, and are 4 inches to 6 inches in diameter. The blooming time is April and May. The facility with which the forms of *C. azureæ* ripen their seed renders them useful for hybridising, in which horticulturists have vied with each other, more especially within the last twenty-five years. The first forms of *C. azureæ* I cultivated—now forty years ago—were all of the azure-blue, purple, or white kinds. They comprised the type *C. azureæ*, with its original varieties, for the most part introduced from Japan, *C. monstrosa*, *C. Fortunei*, and *C. Standishi*.

C. AZUREA (Hort.), *C. cœrulea* (Hort. Belg.), *C. azurea grandiflora* (Ann. de Fl. et Pom.), *C. patens*.—This fine species is difficult to recognise now-a-days in the midst of the numerous hybrids. The flowers, displayed and revolved, are of a purple-rose colour of some depth, changing to a lilac-rose colour, and later on to azure-blue. The type varieties of *C. azureæ*, which I have cultivated since their introduction, are purple or white. Each group is distinguished by the colour of the stamens, which is either brown or yellow. To the first group belong the following varieties:—

C. SOPHIA.—A very distinct variety, introduced by Siebold. The flowers are larger than in the species, purple, quickly changing to white, very slightly tinged with rose.

C. SOPHIA FLORE-PLENO.—A double-flowered variety, regular in bloom, also of Japanese origin. The second group comprises *C. Helena*, with white flowers and yellow anthers, and *C. Louisa*, with white flowers and brown anthers.

C. AZUREA MONSTROSA.—In this variety, introduced from Japan by Siebold, the sepals, which are straight, irregular and limp, are at first greenish, changing to white, and sometimes even to rose. The result is a flower of long duration, which owes its name to the change which the sepals undergo.

C. FORTUNEI (Moore).—Fortune's Clematis was first introduced from Japan into England by Robert Fortune about 1860, and passed into the hands of Mr. Standish. It is a handsome, double, blue flower of taller growth than the preceding ones, being sometimes 4 yards to 5 yards in height. The flowers are of a handsome white, and continue long in good condition.

C. STANDISHI.—This ought not to be classed with the forms of *florida*, as it often is, its proper place being among the forms of *C. azureæ*. It is a variety or a species which, like Fortune's Clematis, was directly introduced into England. The plant is distinct through its foliage, which is that of *C. florida*, but the flowers, which are well formed and graceful, are those of *C. azureæ*, and of a fine satiny azure colour. *C. Standishi* is of no great height, and I believe it to be tender.

Such being the type, species and varieties of the *azureæ* group, I have now to place, according to their rank, the numerous hybrids, which are often very brilliant, though some of them

* I prefer the name *azureæ* to that of *patens*; it is more frequently met with in practical horticulture, and is easier to render in the plural than *patens*.

not equal to the species. It is important to remark that of all the Clematises the *azureæ* are the most likely to give us double flowers from seed, a fact which has been proved in the case of *C. Sophia* fl.-pl., *monstrosa* and *Fortunei*, which were originally introduced in this form. Horticulturists, judging from their knowledge of the old Indian Atragene (*C. florida plena*), are frequently disposed erroneously to place in the *floridæ* group certain double-flowered hybrids which are in reality *azureæ*, like the English hybrid Countess of Lovelace and the Lucie Lemoine of M. Victor Lemoine, of Nancy, which I see classed with *C. florida* in the enumeration of the numerous Clematises exhibited at the Lyons exhibition in 1892.*—DR. JULES DE BELE, in *Bulletin d'Horticulture de la Sarthe*.

(To be continued.)

TUFTED PANSIES FOR DINNER-TABLE DECORATIONS.

VERY rarely does one see Tufted Pansies used for dinner-table decoration, and yet there are few flowers to compare with them for use in this way. Doubtless the short stems and also their liability to wither early are in a measure accountable for this, more particularly if the orthodox epergnes and similar large receptacles be used. Shallow bowls are admirably adapted for use in this way, so, too, are some of the dainty little hand-baskets now frequently met with. These latter are usually fitted with shallow metal or earthenware basins, and if these be filled with green Moss and a further supply of water be added, the blossoms of the Tufted Pansy may be easily and expeditiously arranged. There need never be any regular and uniform method of their disposition on the table. For a small dinner-table I have seen a bowl placed in the centre, and a small hand-basket stood at either end and three or four specimen glasses of varying heights on either side have completed a neat and pleasing display, not overdone, as many dinner-table decorations often are. Arranging the blooms is a very simple matter, and this may be carried out without the aid of wire supports. If each receptacle be partially filled with green Moss, as previously suggested, the flower-stem may be stuck into this, and the resistance thus afforded is quite sufficient to keep the blossoms in any desired position. Sufficient embellishment to the display may be obtained by the use of Pansy foliage, and as this is easily obtainable during the summer months, it should be in frequent request. It is better to place the foliage in the utensils first, as the flowers may be more effectively arranged in this way. Some persons may prefer to use other foliage. If such be the case, the bright green fronds of the *Davallia* and *Maidenhair Fern* in variety, but of the lightest shade of green, are very useful. Some of the rayless Tufted Pansies are seen to great advantage when used for this purpose, and a particularly pleasing picture was once seen in the association of a beautiful yellow and a cream-coloured variety. The yellow flowers predominated, and a blossom or two of the cream-coloured sort was quite sufficient to secure the necessary effect. Another pretty arrangement would be that of different shades of yellow. In this way primrose, pale yellow, clear yellow, rich and deep yellow flowers would each enrich the other. The contrast of the pale green foliage with these flowers would also be most effective. I have seen an arrangement of yellow Pansies in which a few blooms of a fine blue sort were associated, and this under artificial light was specially good. Overhanging the various receptacles were beautiful pieces of *Selaginella Kraussiana*, this with its peculiar tints being most effective.

The many colours in which the Tufted Pansy may now be obtained give one a splendid range

* *Revue Horticole*, 1892, p. 205.

from which to make a selection. One fact which is of paramount importance is that the flowers of the Tufted Pansy may be had in most gardens from April until October, so that during this somewhat lengthy period it would be an easy matter to arrange an occasional display of their blossoms on the dinner-table. It is important to remember that those varieties producing flowers on long footstalks are the most acceptable for this purpose, and as there is a goodly number of these no difficulty would be experienced. Selfs, too, are better for work of this kind.

D. B. CRANE.

Milla biflora.—What a lovely plant this is when seen in good condition and flowering freely! Much of this, of course, is due to size and strength of individual bulbs, and when these are of large size good results may naturally be expected to follow. Some good examples were contained in Messrs. Wallace's group of bulbous things at the Drill Hall on Tuesday last, and quite recently at Kew we noted splendid examples among the

ties in commerce that produce perfect form and pods. Let us have a complete list of these, so that all the world may know what to purchase and what to grow. The National Carnation Society should give a lead in this direction.—A. D.

Water Lilies and their enemies.—On looking further into the matter of the destruction of the flowers of the rarer and newer Water Lilies, we find that, though the water rat is the most active and numerous of the enemies of the Water Lily, the barn rat must also count as one; and perhaps as bad as either of them is the water hen. In a rich tuft of the tall Reed Grass we found two nests of water rats built of the petals and the ruins, in various ways, of about 100 flowers and buds, mostly of the large white American Water Lily (*N. tuberosa*), and twenty-nine flowers of the beautiful *N. Marliacea rosea* were found in one tuft of Rushes. Where no notice at all was taken of these enemies, no flowers or buds were visible on the plants, so that one might assume that the plants were worthless. Free of such

when the bulbs are planted in a deep sandy loam and in a position partially shaded from the full rays of the sun. The roots are few in number, but particularly stout and of a deep descending nature. The flowers vary a good deal in tint, and still more in the size and number of the spots. The showiest form is that in which the ground colour is a rich reddish orange, with comparatively large spots. To this the varietal name of *magnificum* is sometimes applied. The Lily which is often assigned specific rank under the name of *L. Bloomerianum* is but a form of *L. Humboldtii*, in which the dark spots are surrounded by a deeper tint than the rest of the flower. Another North American Lily that is rarely seen in good condition in this country is *L. Washingtonianum*, a pretty and distinct species, but of very little value here. The stock of this Lily is usually kept up by importations from North America, but as a rule they quickly deteriorate. The blossoms of this are white when first expanded, but afterwards become tinged with purple. A deeper tinted form, known at one time as *L. Washingtonianum purpureum*, but which is now assigned specific rank under the name of *L. rubescens*, is no more amenable to cultivation than *L. Washingtonianum* itself.—H. P.

NOTES ON HARDY PLANTS.

Potentilla Thurberi.—The rich crimson flowers of this species of *Potentilla* have a fragrance exactly resembling that of a Peach. This must be a good feature to commend an uncommon flower, but it is not the only one worth special note in the present plant. The colour is an unusual one, maroon-crimson, and the central part of the same colour. The size of the flowers, which are numerous, is a little bigger than a shilling. The habit of the plant is nearly like that of the florists' sorts, but its parts are rather less. It is a very hardy American species.

Kniphofia foliosa.—This is distinct in every way, especially in its period of flowering, which is given in books as August, but I know of some large open-air specimens that came into bloom in June this year and are now seeding. This is an Abyssinian plant, so it may be queried how an open-ground plant could winter safely and get into flower so soon as June. Not only, however, is this the fact, but the garden is in Yorkshire, near the moors, and the plants are in the natural heavy clay soil, and for many years they have stood where I saw them. As winter sets in they are surrounded with dry litter for nearly their whole height, and this is simply removed after the severe late frosts. If seen out of flower the plants suggest old stools of the more glaucous Yuccas, or even some Agaves, so short, thick, and broad are the leaves, which are very wide at the base, and they reflex in a symmetrical manner. The flowers are exceeding large, both in the pips and spikes, and of a high and beautiful blend of colours of scarlet and yellow. The habit, too, is just as distinct as its other features, somewhat forked in the lower woody part; and from these offset branches the formal tufts of glaucous foliage afford a unique and tropical effect, to get which no care can be too much, especially as I was assured that the plant had proved hardy for years.

Inula oculus-Christi.—This is a beautiful form at all stages, from the bud to fully expanded heads. I know there is some confusion about these large Inulas, but I think I have this quite right. Its merits are that it links the periods of the earlier kinds, such as *glandulosa*, *Hookeri*, and *grandiflora*, coming after these have done and lasting until the perennial Sunflowers come. In the bud state it is really attractive. The big buds are almost flat, and merge into a big bract-like set of leaves of rosette form, and for days before they open they show a button-like centre of a rich mahogany-red. Newly opened, they have their ray-florets charmingly fringed, and when fully open the heads are rather less than those of *glandulosa*, flat, rigid, and glistening. The height of the flower-stems is 18 inches and



View in the rock garden at Underdown, Ledbury. From a photograph by Mr. S. W. Fitzherbert.

bulbous things mostly from the Cape. In some of these the tube was fully 9 inches long and blossoms upwards of 3 inches across; the flowers, too, are very pure. Some stems we noted had produced three flowers each. For pot culture it is excellent, as special attention may be then given it.

Split-podded Carnations.—I should like to see established a sort of Carnation *index expurgatorius*, into which should be put all varieties that have split pods. Without doubt these detract very largely indeed from the merits of one of the most beautiful and popular of garden flowers. If the gardening public would ruthlessly resolve to both weed out and destroy all varieties subject to pod-splitting, and also not to purchase any others that were so, we should soon get rid of these very annoying varieties. Next to finding a batch of plants raised with the greatest care bearing single flowers, no annoyance can be greater than to find them producing large double flowers all loose and in rags. We have many fine varie-

ties, they flower as freely as any plants, and even in distant effect are very charming. Though the destruction in this case is apparently confined to the flowers, it does not follow that weak and young plants of the rarer kinds would not be destroyed by the same means, and, in fact, we have lost a good many. These enemies occur most, as in this case, where the supply of water is from streamlets inhabited by rats and water hens, and the same troubles are not present in small ponds fed by springs or pipes.—Field.

Lilium Humboldtii.—If it could only be induced to thrive, this Lily would certainly take high rank. Large bulbs of *Humboldtii*'s Lily are often sent to this country from their Californian home, but many of them fail to become established, and as a rule very little is seen of them above ground the first season after planting. They are said in a native state to always grow on well-drained soil, and usually where the subsoil is rocky and the upper soil is clayey or volcanic. In this country the greatest success is attained

the habit of the plant vigorous. I have had another plant under the name with quite small flowers, the plant less in all its parts, and more downy—almost grey. Anyhow, this plant is not common, and, what is more, it is a beautiful and useful border plant that may claim a place among the best herbaceous things. I lost it once by trying to propagate it in the teeth of winter. I now transplant as soon as flowering is over, or leave it till March.

The *Dentarias* are now all merged in the genus *Cardamine*. Still, many of us for a long time will more easily recall those pleasing and interesting plants by their older names of *Dentaria*. I merely mention the above fact of change of nomenclature because I know there has already with some GARDEN readers been experienced some confusion. See Kew List, *Cardamine*, pp. 95, 96. What I wish more particularly to speak of is that now is the best time to either plant, transplant, or propagate these curiously-rooted species. Some of them—most—will now be leafless. Still, their rhizomes, like most bulbs, are active in the autumn, and these become clothed with the fine fibres peculiar to their scaled and knotted root-stocks. For half-shady places the whole group is useful, and, further, it suits these plants to have given them a place where they may remain for many years. The early-flowering *D. digitata* is typical in this respect, and I can refer to a group in my own garden which has never been lifted for eighteen years.

Campanula Vidalli.—My object in this note is to learn if possible if anyone has tried this plant for hardiness, and if so, to what extent and in what sort of climate. I have grown it for three years and now have but one plant in flower for the first time. It takes my fancy immensely if only one could grow it out of doors. The rugged and fruticose habit, the peculiar and thick shining foliage and the long spikes with big white bell flowers of distinct shape (contracted midway down the tubes) are all uncommon features. I am inclined to believe the plant or shrub is almost hardy, as a few cuttings I put out of doors last year were left out most of the winter.

Silene Elizabethæ is a dwarf plant, producing in July and August large flowers of an intense rosy crimson colour. No sooner do the flowers appear than this Catchfly of the Tyrolean mountains asserts itself as the queen of the genus. A good patch arrests attention long before one reaches it. It has, however, the reputation of being hard to cultivate or even "miffy," and I think its requirements are special—light and moist soil and an east or west aspect are the chief conditions which I have imagined it to like, and going on this dictum I get good growth and big clean flowers. Slugs, however, are its most deadly enemy in an English garden. I keep them off it by means of frequent pepperings of dry sand all around.

Campanula Tommasiniana is a variety (Koch's) of *C. Waldsteiniana*. It is not enough known, or at least not enough grown. It can be distinguished from the type by the flowers being in racemose spikelets, whereas those of the type are tiny panicles, and further the flowers are long and tubular compared with the cup-shaped bells of *C. Waldsteiniana*. When not in flower it is hard to tell the one from the other. Both are 4 inches to 5 inches high, most fragile and delicately beautiful. Packed into a moist chink where there is a seam of rich leaf-mould is the place for them. J. WOOD.

Woodville, Kirkstall.

Continental Carnations.—The varieties sold commonly by the trade as French or German and, of course, of foreign production, are very charming things to furnish cut bloom, the bulk being so much better than the flowers of the Marguerite strain, but they do not bloom so late or over so long a season. To florists anxious to obtain fine flowers from seedlings, these continental varieties would be disappointing, as few flowers are of sufficient size or merit to compare

with the good flowers obtained from home sown seed. But we can obtain seed of the best strains at home only under glass, as only in the very hottest and driest weather will good double flowers become fertile. Under glass nearly all flowers have to be artificially fertilised, and no one getting a good strain should complain of the price of such seed. Even twenty good varieties out of one hundred seedlings is not a bad result. The continental varieties, however, make but little grass. They bloom profusely, and in that respect are admirable to grow for the furnishing of flowers for cutting. All the flowers are sweet-scented. It is well to raise them from seed sown outdoors early in May—and robust plants will result—to go out into beds specially for cutting from in the autumn. The colours found in the flowers are very varied and beautiful. The stems are stiff and erect, never falling about. To secure such habit on many of our best varieties would be great gain. A grower of singles or "jacks" for the hawkers, having a quantity of these foreign doubles, endeavoured to induce the hawkers to prefer them to the singles, but they would not look at them because the leafage was so narrow.—A. D.

Mesembryanthemums in the garden.—A Noon Flower in bloom in my greenhouse to-day leads one to think that someone who has had experience in growing these out of doors would do a service to many by pointing out the hardiest of the species. My own experience of the *Mesembryanthemums* is but scant, and is not, I fear, very encouraging. The annual species require no comment beyond saying that they might with advantage be more widely grown than they are. The curious gnarled-looking *M. uncinatum* of Haworth I grew for some five or six years until it became a fair-sized bush. It never flowered, however, and was more thought of as a curiosity than as an object of beauty. It eventually succumbed one hard winter, but I am disposed to think that it might have lived until now had it been planted in a more sheltered situation. About ten years ago a firm making a speciality of new and rare plants offered collections of seeds of the perennial *Mesembryanthemums*, recommending them for bedding and also for planting permanently in dry places. They come readily from seed, and from seed obtained from the firm in question several species were raised and the young plants put out. They did not bloom that season, and were left out during winter to take their chances of the weather. That winter was a mild one, and a number of plants survived. They did not flower the following summer, and were left to their fate, with the not unexpected result that next winter carried them off. While at Mount Usher, Co. Wicklow, in June, I saw several Noon Flowers on the walls and rockwork. They seem hardy there, but Mr. George Walpole told me that they do not do well. This did not surprise me, as the situation, although very favourable to many flowers, would not, I think, suit succulents. There ought, however, to be a good many gardens where these *Mesembryanthemums* should grow, and any who have experimented with them would confer a favour by giving us their experience.—S. ARNOTT, *Carsehorn*, by *Dumfries*, N.B.

NOTES AND QUESTIONS.—FLOWER.

Veronica virginica.—For the background in the border this is by no means to be ignored; indeed, the height to which it attains (nearly 5 feet) is useful for the position indicated. It is of erect growth and bears profusely a good number of white spikes of flowers.

Erodium guttatum.—This pretty plant has been flowering freely for some weeks past, and promises to continue for some time. The flower is larger than in many kinds and pure white, save for a conspicuous dark blotch that renders it unique. The plant is of easy culture in sandy loam that is also well drained.

Michauxia campanuloides.—After repeated trials of this in the open ground it must be admitted

as of little value as a permanent subject, and when grown under glass care should be taken that it be grown on a shelf near the glass where air is constantly being admitted. Grown on into large plants in pots in a cool house, it may be transferred to the open in May to later expand its quaint and large white blossoms.

Crocus vallicolus.—The interesting article on autumn Crocuses by Rev. C. Wolley-Dod contains a reference to this pretty early autumn Crocus. It appears to succeed better at Edge Hall than it does here. A couple of corms received several years ago never produced a flower and failed to increase, eventually being lost. One procured three years ago flowered the first season, but has not done so since. I have been disappointed also with the flimsiness of the segments and their want of substance.—S. ARNOTT, *Carsehorn*, by *Dumfries*, N.B.

Carnation Isinglass.—This was raised by Mr. C. Salter, Mr. T. B. Haywood's gardener, at Reigate, and has recently received an award of merit at the Drill Hall. It is a great merit of this variety that whilst the blooms are so fine, having broad flat petals and smooth edges, not one flower splits the calyx. Then the variety has the true base growth or border habit outdoors, and it is very robust. I have seen several scores of plants growing in the open at Reigate where the habit is all that can be desired. It is a very profuse bloomer.—A. D.

Meconopsis Wallichii.—The blue Poppy of the Himalayas is now finely in flower, and constitutes one of the best bits of colour in the garden. It is less fine, however, in point of spike than is often seen, a fact which is doubtless due to the long spell of dry weather, for, notwithstanding frequent heavy watering at the root, it is not possible to compensate the exceedingly arid nature of the atmosphere at such a time and which tells heavily on many like things. Seedlings of this plant raised this year should be planted without any further delay in order to secure fine rosettes for flowering next summer.

KITCHEN GARDEN.

CULTIVATION OF EARLY WHITE ONIONS.

Now is the time to sow Onions for gathering in May and onwards to succeed the keeping Onions, stores of which will then have been exhausted. By sowing the Onion in August we make sure of a supply from May to July. An important point is the choice of varieties and seeds. There are, in fact, a number of varieties of white early Onions in existence, but from our point of view at present the thing is to get early kinds. This object is fulfilled by growing the following, classed in the order of their ripening: *De Barletta* (very early), *à la Reine* (very early), *de Nocera* (very early), *de Vaugirard* (very early), *de Paris* (early). The three first are of Italian origin, and coming as they do from a much warmer country than ours the effects of our hard winters are very perceptible in the plants. It is not so with Onions *de Paris* and *de Vaugirard*, which, though doubtless originating from Italian stocks, have from long cultivation become hardier. They have long been grown by the Paris market gardeners. It is important, therefore, to know if the seeds were gathered in a warmer country than that in which the sowings take place, as if so, there will be reason to doubt the hardiness of the seedlings. On this ground *O. de Paris* from seed obtained in Italy will be less hardy than *O. de Nocera* would be if obtained from seed grown in Paris. This being so, I should recommend the Italian varieties for the west of France and for climates milder than that of Paris, reserving the others for the north, the east, and the centre of France. The Italian varieties may, however, be grown with the assistance of frames and boxes to shelter them in winter.

The Onion likes a soil which has had no manure for some time and been made firm

before sowing. In sowing at the present time choose a sheltered piece of ground, along a wall for example, and sow thickly. A small square is generally sufficient for sowing, as the plants will be planted out later on, and if boxes are used they can be stood in frames. This is the right way in the north and for delicate varieties. Choice can be made between planting out before or after winter. In the west of France planting out is done before winter, but in the north it is delayed until February or March. In Paris it may be done before or after winter, but in the former case it should take place before the frosts come, so that the Onions may have had time to take root. Planted in autumn they are more subject to frost if they are not well rooted. It is less easy also to protect them unless they are planted out under frames. I therefore advise in cold districts that the planting out should be done in spring, at the end of February or March, in the following manner: Choose a well-exposed situation; if desired, Radishes may be sown there for consumption twenty days afterwards. If so, rake over the seed and then plant the Onions with always 4 inches of space between. Before planting remove the extremities of the leaves and roots. The bulbs are generally fit for use from May, more or less according to the varieties classed above. They are gathered as required; those left in the ground ripen in July, but do not keep through the winter. —JULES RUDOLPH, in *Le Jardin*.

Cabbage and Cabbage sprouts.—Much has lately been said in favour of Cabbage sprouts. My practice for many years has been to plant Ellam's Early in autumn for spring use. This I have found the best early kind. When these are cut the ground is cleared and Celery trenches dug. The second crop of Cabbage is planted in early spring from autumn-sown seed. After the heads of this crop are cut the ground between the plants is cleared of weeds, all the old leaves that are green being left on the stumps. These encourage sprout growth and also shade the ground and prevent loss of moisture. A good soaking of liquid manure from the farmyard is all that is required to give a heavy crop of sprouts and small Cabbage in autumn and winter, these being much more prized than Savoy. —W. O., *Fota*.

New Pea Acme.—This is the result of crossing Veitch's Early with Stratagem, and by getting the splendid quality of the latter with the earliness of the former a new variety of special merit has been produced, and one that will be valuable for early supplies. I think Acme will be a popular early variety. It is a 3-foot Pea with a strong haulm and a very full pod containing six to eight Peas, and its earliness with grand cropping qualities will make it most valuable for forcing and early sowing. Stratagem is not one of the best for heavy soil if sown early, as the seed germinates slowly, but this variety largely partakes of the hardness of Veitch's Early, and was one out of very few that did well at the Royal Horticultural Society's Chiswick Gardens, receiving an award. Being a continuous cropper, it will be of great value for early supplies either in frames or the open ground. —G. WYTHES.

Capsicum Erect Fruiting.—This makes a very ornamental plant, and where the pods are cared for it is as profitable a variety as any. The fruits set very freely, are erect, tapering to a point and very bright red in colour. The seed should be sown in March or April if the plants are required for winter decoration and must be kept growing and the flowers pinched out until the final potting. Sow with a dibber about an inch apart on carefully prepared seed pans or pots, as the seedlings transplant badly if the seed is sown thickly. When in the rough leaf prick them off around the edge of pots or into pans and pot into 3-inch pots when necessary. No coddling

must be allowed, growing the plants in a light and airy greenhouse or frame from the first. Repot into 6-inch pots in a light and not too rich soil made firm. No stopping is required, the plants branching naturally. They must be fumigated once or twice during the growing season, as they are singularly liable to the attacks of green fly, and occasional syringing after the fruits are set is helpful. Good well-fruited plants look very pretty under artificial light.

Autumn-sown Onions.—I never remember a season when I had better Onions from seed sown last August. No matter what variety, the bulbs are grand, and this with only ordinary culture. The same remarks apply in other localities, as I was recently in the midland counties and the western part of the country and I saw some splendid crops. It is usually a fair test of the season when the cottagers and allotment holders stage this vegetable well. A few weeks ago at Ealing show there was a grand array of autumn-sown roots all so good and in such quantity that it was difficult to make the awards. "Dorset" (p. 10) complains of the autumn-sown Onions running. Strange to say, I have only had one solitary plant run out of a very large number. On making inquiries I find equally good reports of crops elsewhere. Spring-sown Onions are fairly good, though the crop is not so heavy, as the seed was a long time in germinating this year. Many persons rely on their autumn-sown Onions for their supply in places where the grub attacks those sown in the spring. —G. WYTHES.

Main-crop Peas.—How well these are looking this season, and when compared with last season's crops they form a very striking contrast. So far they have needed no aid in the way of artificial watering, and the haulm is healthy, vigorous, and well clothed with pods in various stages of development. Unless the weather should prove unusually hot within the next few weeks and so hasten growth, the promise of an abundant yield seems likely to be verified. Among sorts that call for special mention as looking particularly promising are Veitch's Main Crop, Mammoth, Triumph, Masterpiece, Champion Marrowfat, and last, but by no means least, that fine old sort Veitch's Perfection. All of these have a dwarf, robust habit of growth, none exceeding 3 feet in height, and they are also excellent croppers. It is yet premature to give any opinion as regards the quality of the first four named, as they are not yet fit for use, but the other two are first-rate in every particular. Autocrat sown at several different dates will succeed the above, and these are also looking extremely satisfactory. Autocrat is a very fine Pea, it and that other excellent sort Sturdy being undoubtedly two of the best kinds we have for late work. They are both of dwarf habit, very prolific, and the quality of the produce is beyond all question first-rate. —A. W.

Digging in green crops.—During the spring of the present year green crops were such a drug on the markets, that one was glad to put them anywhere out of sight, and as the best course at the time open to me was to dig them into the land, I adopted it with several large plots that were being prepared for Potatoes. The plan followed was to open a larger trench than usual, dig the Cabbages or Broccoli up, chop them up with a spade and work them into the bottom of each trench, so that there was a good depth of clean soil above them. The sets were then planted in the usual way. The Potatoes are now ready for lifting, and the heaviest crops are in those plots that had the most green stuff buried in them. I am often surprised to see greenstuff of any kind being carted away from gardens by the scavengers, as anything that will decay in the soil forms food for succeeding crops, and if there is no land available at the time, it can easily be put in the rubbish heap to await a time when it can be utilised. I find a dressing of this kind answers exceedingly well for Potatoes. Some of the best crops, and certainly the brightest tubers, have been grown on land that has not had any strong

manure for years. Very much may be done with ashes, burnt earth, and rubbish-heap refuse towards preparing land for Potatoes. Fresh manure, if it increases weight, also increases the liability to disease and coarse, un-hapely tubers. —J. G., *Gosport*.

GLOBE ARTICHOKE.

WILL you please give a few practical hints on the culture of Globe Artichokes? Mine planted two years ago seem to grow too luxuriantly; they have huge leaves and are very tall, but the heads are very small and poor eating. Would you advise their being moved to poorer soil? —E. P., *Sussex*.

* * * Evidently the Artichokes in question are from a poor stock raised from seed and unselected. Though most seedsmen sell seeds from selected types of the Green Globe and Purple Globe forms, a very large percentage of the produce is worthless, so that a rigid selection must be made of the best types, when the heads form, and all the rest destroyed. This may mean destroying two-thirds or even more of the seedlings. A better way of getting stock is to buy selected crowns of the purple or green forms, as desired, from a reliable source, and then to take good care not to lose the stock again. By no means should the plants be removed to poorer soil, rich soil and free growth being absolutely necessary for the production of good succulent heads, and if strong growing plants, such as "E. P." appears to possess, do not produce good heads, no system of cultivation will make them any better than they are. The cultural details are few, but must not be neglected. Plant in April or early in May in groups of three the strongest crowns which can be procured, the groups to stand at least 4 feet apart. The position should be an open one, and the ground should have been trenched and well manured during the previous winter, and if the soil is inclined to be wet or heavy, some light material such as the ashes from burnt garden rubbish should be added, or if this is not available in quantity, leaf mould and road grit form a good substitute, indeed, any one of the various things which are recommended to assist in making a heavy soil more porous will greatly benefit the Artichokes, and help to prevent their loss during the winter. While the plants are bearing their crop, they enjoy liberal floodings of liquid manure, and under this treatment they flourish and keep on producing successional heads for at least five months of the year. I make it a rule to plant one or two rows every year, as I find that the best crops are given in the second and third seasons, while those newly-planted give a late supply. It is a mistake to allow the old stools to remain in the same spot for many years, as they get weak and overcrowded with shoots. As winter approaches the crowns should be surrounded with dry Bracken, and as this becomes sodden it should be removed and replaced with fresh material. Some recommend coal ashes and others straw as a protection, but I have a decided preference for the Bracken. Wet winters are worse than cold ones for the plants, but they suffer most of all when sharp frosts are alternated frequently by wet thaws, and to avoid total losses of valuable stock in such seasons, I advise that in November some of the strongest crowns should be separated from the stools with a little root attached to each, potted up into 7-inch pots, and wintered in a cold but dry frame, planting them out in May. Old stools may be lifted and divided, the woody portion of the root-stalks should be removed, but each divided piece should have some fibrous roots attached. The Bracken or other protective

material should be removed from the established clumps in spring as soon as the weather becomes genial, and at the same time a good dressing of decayed manure should be lightly pointed in with a garden fork. Should the crowns be much crowded, some of the weaker growths should be removed when they become sufficiently advanced, as this will strengthen those left and tend to the production of first-class heads. For light soils seaweed forms a good manure, and, failing this, light dressings of fish manure or of agricultural salt should be given during the growing season.—J. C. T.

Potatoes.—Should the present dry weather continue through August there will probably be little complaint of disease, as the dryness of the air prevents the fertilisation of the disease spores and renders them comparatively harmless. A very heavy rain with continuous showers would soon be productive of much injury; besides on all breadths that whilst still green have been checked in root-production by dryness of soil, growing out would certainly follow. Much as rain may be desired for other crops, it is doubtful whether, if it came in quantity, more harm than good would not follow to Potatoes. It is not probable that under even the best weather conditions the crop will be a very heavy one, as in many directions the earlier kinds have ripened off, leaving small rather than large tubers. The soil dryness must check the production of large tubers in late varieties, except in cool districts or where the soil is very retentive. But experience has shown that very heavy crops, and especially large tubers, bring little profit to the grower for sale. Price goes down to the lowest point because the markets are glutted, and a big sample dealers will not have at any price. Should the dryness continue, there will be little cause to employ spraying machines and copper sulphate fungicides. Valuable as applications of Bordeaux mixture may be in cold, damp seasons, it is very questionable whether they may not do more harm than good when the air is dry and the sun shines out hotly. The mildness of the past winter was productive of much premature sprouting of the seed tubers, and to that cause is chiefly due the common aspect of breadths, very irregular with many weak plants.—A. D.

Asparagus beds.—It is incomprehensible to me that, with the better knowledge of the requirements of Asparagus that so generally exists, so many cocked-up beds should still be seen. There seems to be an impression in the minds of some growers that so long as depth of soil is obtained that is enough. When beds are but 4 feet wide and have deep trench-like paths or alleys on either side, the surface exposed to the atmosphere is nearly double that found when beds or breadths are on the flat. Still further the rounded form of bed tends to throw off rain, especially when the soil is very dry, and the bulk of it passes away into the alleys, where it is largely lost. Were these trenches filled with decayed manure or leaves, some good might result. But on raised beds plants are invariably unduly crowded to enable the broad, deep alleys to be formed. How much better is it to trench the soil deeply, bury into it a heavy dressing of half-decayed manure, and then plant the Asparagus roots in broad shallow furrows at from 2½ feet to 3 feet apart. Some growers that plant in this way think that a width of 3 feet between the rows is excessive. It may seem so for the first and second years after planting, but later, when plant growths are strong, not an inch too much room is found; indeed, the greater space given per plant is more than repaid by the very fine grass presented for cutting each year. Asparagus breadths are not easily formed, and when done should be well done, that the plants may endure for a long time if desired. All the same he is a wise gardener who raises plants and makes a new breadth every year, as in that way he has a good succession of plants and can always have plenty of old roots to lift for forcing if needed.—A. D.

NOTES AND QUESTIONS.—KITCHEN.

Pea Boston Unrivalled.—In a recent issue "A. W." gives this a good name, and rightly so. I quite agree with all he says respecting it, having grown it now for two years. This year I sowed it at several times. The earliest was fit to pick in the middle of June. It grows with me about 5 feet high, and pods close to the ground. The pods are large, but, unlike those of most of the big-podded kinds, they are not inflated, but filled up.—DORSET.

Tomato disease.—We would be glad if you could give us any information as to the cause of the disease on the Tomato stem we enclose; it was cut off close to the ground. We have lost several plants this year and last, the disease always being about 2 inches to 3 inches above the ground and the stem sometimes quite healthy below. The plants are in the ground and trained up strings in the ordinary way. We sometimes think the strings cause the disease, as on a great many plants a kind of scab forms on the stem below the string all the way up.—CARNEGIE AND BAXTER, *Ayr*.

** You state the case very clearly, and I think have formed the correct solution to the problem.



Primula vulgaris.

Straining strings from the stems of plants to wires or other fastenings on the roof in the ordinary way is an unwise practice, and not nearly so economical as many growers consider it to be. I tried it on a large scale for one season, half discontinued it the following year, and at the present have not a single length of string attached to the stem of a Tomato plant. When growing strongly, and more especially during the first few weeks, the bark of the stems is very tender, bruising on the slightest pressure. Straining strings from the stems to the roof means a slight bruise at first and a constant pressure afterwards, and this injury to the bark causes it to become dry and woody, a kind of canker setting up, which spreads completely round the stems, destroying the sap vessels, till at last the channels of supply to the upper portion of the plant are cut completely off and a collapse, gradual, but sure, is the consequence in extreme cases, while many more plants are injured, though not destroyed. Even twisting the stems round the strings is objectionable.

It is a quick way of training, but unless done very carefully the stems may be bruised by the process. My plan, and which I would strongly advise you to adopt, is to early place a 3-foot bamboo to every plant, and in due course to conduct a string from the top joint of the bamboo to wires or nails in the roof. Raffia is used for securing the plants to both the stakes and strings. Bamboos unsharpened last for several seasons, and I go to the expense of having stout 8-foot canes for the plants alongside paths, those attached to strings constantly swinging about and getting in the way.—W. I.

GARDEN FLORA.

PLATE 1184.

HARDY PRIMROSES.

(WITH A COLOURED PLATE OF EVELYN ARKWRIGHT.*)

In the very fine sulphur-coloured Primrose Evelyn Arkwright here figured, a genuine Primrose is put into commerce. Not that Primroses are at all new, as we have had many in years past, but constant culture, seeding, and intercrossing have so destroyed the true Primrose habit in them, that now it is difficult to obtain any from seed that do not largely give the Polyanthus habit. Even the more recently introduced blue Primroses, with which Mr. G. F. Wilson's name as the raiser is so closely associated, seem disposed to follow the earlier strains and to become Polyanthuses in the habit of producing flowers in clusters rather than singly.

It is to be hoped that the one now figured will long retain under propagation, either by division or by seed, the true Primrose blooming propensities. Whilst old garden strains gave many years ago some coloured Primroses, it was not until the advent of the rich crimson-flowered auricula-flora, that had thrum eyes and ample pollen, and the large single mauve pin-eyed form put into commerce some years since by Mr. Turner, of Slough, as *Primula altaica*, which two were intercrossed, that a genuine race of richly-coloured true garden Primroses was introduced. From out of this stock came pure whites, sulphurs, quite as fine as the one under notice; mauves, purples, carmines, reds, and crimsons, and for some years those through seed, which they gave pretty freely, reproduced their kind. But, being grown close to richly coloured Polyanthuses, and apparently developing the innate tendency of all Primroses under cultivation to become of Polyanthus form, so many eventually reproduced, though still in beautiful colours and fine flowers, the cluster on elongated stems, that the old and

* Drawn for THE GARDEN by H. G. Moon from flowers sent by Mr. J. H. Arkwright, Hampton Court, Leominster. Lithographed and printed by J. L. Goffart.



PRIMULA (P. F. W. F. W.)

charming Primrose habit largely disappeared. The result is that now, with the exception of the blue strain, it is difficult to get true Primroses from seed. It was always my experience of these flowers that they did originally form so diverse a section, that not only were the flowers all produced on single stems, emanating direct from the roots, but they were invariably pro-

plants form large clumps and bloom profusely.—A. D.

Mr. J. H. Arkwright, Hampton Court, Leominster, who sent us the flowers from which the plate was prepared, sends us the following note regarding this Primrose:—

The original stock of this Primrose (found wild in Dinmore Wood, Herefordshire, in 1887) has

obtained in bedding sorts we have advanced a step. The fancier's taste at present is for huge round flowers to torture into sprays with iron fetters. This will speedily prove a mistake, as in many places it is recognised by gardeners that the good qualities of the rayless section is their excellent flowering character. I read your critique with interest, and entirely agree with your opinions. Aesthetics are not included in the education of the modern florist. The simpler Tufted Pansies are displayed indoors the better they appear as to their true character.—C. STUART.

THE WEEK'S WORK.

KITCHEN GARDEN.

ARREARS OF PLANTING. With a genial rainfall any arrears of planting which have been delayed owing to heat and drought may now be made good. I am busy planting Coleworts and late Broccoli, and though full late for the latter, the soil now being in a thoroughly moist condition the growth will be rapid. It has been difficult to make losses good, as with so much heat many plants have become blind. This is more the case with Cauliflowers than any other of the Brassica family, and if there are strong seedlings to fall back upon all losses should be made good. In the case of other plants it may be well to make later plantings if any are at all irregular, as though the produce may be smaller the crop will be a profitable one late in the year. The large Drumhead Savoy planted now for late winter use is far more valuable than earlier produce. It is a good plan to mould up earlier plantings of green vegetables, as these will now be large enough. I have not advised doing the work earlier owing to the soil being so hard and dry. Plants treated as advised will be benefited, as later on in exposed places rough weather often twists them out of position.

CAULIFLOWERS.—I am a believer in sowing autumn Cauliflowers for various reasons. Needing a lot of vegetables at most seasons, it is well to have a good supply of all kinds, and to effect this



Primrose Munstead Early White.

duced fully a month earlier than were those of the ordinary Polyanthus strains. It was a very valuable feature, as plants were ordinarily in full bloom in March, whilst the others were never at their best before the end of April.

Some years ago there were numerous varieties certificated by the Royal Horticultural Society and put into commerce. These have quite disappeared; indeed, there seem to be few plants endowed with shorter lives than single named Primroses. So far, they will not really reproduce themselves from seed, though many seedlings come very near in form and colour to the parents. But all named varieties can be relied upon to come true only by division, and that process of propagation means annual lifting and dividing, treatment which the Primrose does not like. The most common of the double forms are increased in many parts of the country where hot, dry summers prevail with much difficulty, the plants, both single and double, being so liable to attacks of red spider, which destroys the foliage and so weakens the crowns that they refuse to make new growth. Where that trouble prevails it is needful to water the plants very liberally, especially frequently sprinkling the foliage, and, if practicable, furnishing cool shade.

In the humid atmospheres of Ireland and Scotland all the Primrose tribe usually do well. In the south, when long spells of hot, dry weather prevail, they are difficult to keep fresh and vigorous. There is no better time to sow the seed than in the first week of September, keeping the plants in the seed-beds all the winter, thus having plenty of strong seedlings to put out where to bloom in April whilst the soil is still moist. Such plants become deeply rooted and very strong before the heat of July interposes, and if the leaves suffer somewhat from an attack of red spider, new foliage is strongly thrown up in September or earlier if rains come. Of such plants, whatever may be the quality or character of their flowers, at least many bloom all the winter if that season be an open one, and in the following spring the

kept up its character to the third generation by seed. The first blossoms were almost a perfect circle, with hardly a sign of a dip in the centre of the petal. A good blossom measures $2\frac{1}{2}$ inches in diameter, and in some cases $2\frac{1}{2}$ inches. The plant from which the drawing has been made was grown without any rich food in the soil.

A note from Hillside.—The Tufted Pansies I sent are all seedlings of this year—Argosy, Golden



Bunch Primroses.

Fleece, Ruth, Crème d'Orange, &c. They were raised from seed obtained from one of my dwarf varieties—Coolgardie crossed with pollen from A. J. Rowberry. I think we are now in for an entirely new race in yellows. A. J. Rowberry, although of sprawling habit, is very fine in colour, and no doubt when a race with the same colour is

the autumn-sown plants are very serviceable. On the other hand, where there is ample means to raise plants of the Snowball section early in the year, I do not deprecate this mode of culture, but I fail to get the plants sown early in the year to turn in so early as the autumn-sown. I grow a goodly number for cutting in May and early

JUNE. To get the best results with Cauliflowers, it is well known there must be liberal culture. Few plants of the Brassica family need more food from the time they commence to grow freely, and though the seedlings need the same, it is not necessary to winter the plants in such soil if transplanting is done early. On the other hand, it should be borne in mind that seedlings transplanted, say in February or March, are later than autumn-planted ones, and I therefore advise sowing and planting in their permanent quarters a portion of the plants now, and another lot in the early spring to form a succession. For autumn planting it will be advisable to prepare the land at an early date. My crop will follow early Peas, and a liberal quantity of manure is dug into the soil. I also advise deep culture, as the labour given now will not be lost, the ground when cleared early next summer being in good condition for such as late Carrots, Turnips, or similar crops. Many advise planting in a sheltered position. I have secured the best results on fairly open quarters, as, though the plants may make a poorer growth, they suffer less in severe weather. I still adopt the hand-glass system, as this gives a much earlier return and saves the plants from the cold east winds, which are equally injurious as frost. Those who cannot protect in the way noted may prick out the seedlings rather closely at the foot of a south wall, the chief drawback here being slugs, which do much damage. Plants wintered in frames, unless given full ventilation, get too large and soft, and do not lift well. I prefer those in the open, or a frame may be placed over the seed-bed in the late autumn. As regards varieties, I am very fond of Early Erfurt. Walcheren is also a reliable variety, probably less early than the Erfurt or Early London, but I consider it hardier. In catalogues Walcheren is called a main-crop variety, but I find it an excellent one for autumn sowing.

LATE KALES.—Few vegetables are more useful in March and April than the late Kales. I am aware owing to the late season and drought planting has been deferred, but there should be no further delay, and Kales to make headway need good land. In places where animal manures are scarce, I have found land dressed liberally with a good fertiliser give a good return. My latest Kales are now being planted on land that has produced Strawberries. Rather deep drills were drawn, and a liberal quantity of fertiliser mixed with burnt refuse placed in the drills. This will give the plants the necessary start, and after this a gross growth is not needed. For late supplies, such kinds as Asparagus or Buda, Cotta-ger's Kale, and Ragged Jack are difficult to beat. These are the last to run to seed, and though in severe winters they lose a lot of their autumn growth, early in the year they make new leaves from the base and give a lot of cutting material and of good table quality. Of curled Kales, Read's Hearting is a very reliable variety, very late, and not readily injured by frost. The Arctic Kales are also very hardy and excellent for late supplies.

POTATOES.—Those who cannot find room for very late Potatoes will now be in a position to lift what are termed the mid-season varieties. My best Potato for use from now to December has been Windsor Castle. The crop is not so heavy as in previous years, owing to drought, but there will be no gain in leaving the tubers in the land after this date, as with rain we often get dull weather, with the result disease sets in and the loss is much greater than if the tubers were lifted earlier. With early lifting more care is needed, so that the skins are not injured, but the tubers rarely suffer if given cool storage. Many have to make various shifts and store in places not suitable. Much better results would follow leaving the tubers where grown. I mean placing in clamps and covering with mats and straw for a time, allowing the moisture to escape by occasionally turning over and drying. Tubers needed for seed may be laid on walks or well-drained soil and greened by exposure, turning over frequently,

and when well hardened by exposure, stored in a cool room on shelves or in shallow boxes. Any varieties grown for seed should be examined and lifted if the skins are set, as after a long period of dry weather second growth begins.

TURNIPS.—The land will now be in excellent condition for sowing Turnips. So far the work has been difficult owing to drought, but by sowing now rapid progress will be made. This should be a large sowing for the winter supply. In many places earlier sowings are advocated to get size, but I think a large keeping Turnip is not needed. Far better have roots of a medium size quickly grown than large ones which decay and go hollow. Good soil is needed, and for this I manure land that has borne early Potatoes. For roots to stand the winter where sown I do not give fresh manure, but a good dressing of soot and burnt refuse, and sow the last week in this month or early in September. For winter supplies to store, few varieties are superior to Red Globe, a handsome solid root and of excellent quality. Green Top White is equally good for the store, and not a coarse root. For later sowing the same varieties hold good, but the yellow-fleshed kinds are even more suitable. These winter well in the open, and if grown for their green tops in the spring, give a lot of cutting. Golden Ball and Yellow Malta are also excellent types.

ENDIVE.—Now is a good time to get out seedlings sown for autumn supplies. To get a quick return it will be well to enrich the soil freely, and in lifting to get as many roots as possible, so that the plants are not checked. The advantage of sowing thinly will now be seen, as much better material will be secured for planting. Endive is not used much as a vegetable, but it is well worth growing for that purpose, and the Improved Round-leaved Batavian is the best, this being a hardier variety, and making a large growth in good land. In planting it is well to firm the plants in light soil, and should the weather be dry, give water freely and ample room between the rows. For earliest supplies in the autumn some of the largest plants left in the seed beds will turn in before those that are transplanted, and if sown in drills for early use, it is well to thin freely to give the plants room to develop. A late sowing made now will furnish the supply after Christmas. In favourable winters small plants raised at this date will do fairly well in a sheltered position, say the foot of a south wall.

RADISHES.—Many omit to sow Radishes at this season. I do not advise large roots, neither do I advise one large sowing, but several, from now to the end of September. The earlier kinds should be the ones chosen. A north border is best for the August sowings. For winter supplies a different course of culture is advisable, and other varieties may be sown. The China Rose is one of the best for autumn sowing. This is of a bright rose colour, and very sweet in a young state. For storing for latest use the Black Spanish, a large round, very hardy root is good. This may be left in the soil if covered with long litter in severe weather. The winter kinds will be best sown on an open quarter in soil manured for a previous crop. S. M.

FRUITS UNDER GLASS.

PINES.—In well-managed gardens where Pines are still grown the Queen variety should still be the source of supply. Even up to the middle of October it may be depended upon under good management to give the best possible satisfaction. Thence onwards it is safer to depend upon Smooth Cayenne and Charlotte Rothschild, with the Black Jamaica in reserve for the winter season. Those of the Queens which are now swelling should be treated generously as regards water at the roots, and also with respect to atmospheric moisture. The hot weather which we are now experiencing is all in favour of Pine-apples, provided this is duly attended to. Water may be gradually withheld as the Pines colour, but not entirely until about two-thirds advanced in this

respect. A good Pine when well matured should have the stalk fresh and sappy. If shrivelled, something is wrong at the roots and the flavour will not be first-class. There is more risk now of keeping Pines too dry both when swelling and ripening than otherwise, hence the caution now given is needful where the charge is looked after by those not of ripened experience. In order to keep Pines for a time when ripe they can be removed from the fruiting-house or pit and be stood in the fruit room or in a cool and well-ventilated vinery. Look to it, however, that when this is done the plant is quite dry at the roots. Another plan, and a reliable one, too, is to cut the fruits with as long a stem as possible, and then suspend them upside down in the fruit room. Thus, by judicious management, the supply can be regulated fairly well, and the remark so often made that Pines come in all together be refuted. Even if there be a few more on hand than are wanted it is a simple matter to preserve them. Those Smooth Cayennes, or other kinds for later supplies, that are now swelling away after the flowering stage is passed will bear treating liberally. An occasional application of manure-water will assist them greatly twice or so a week for a few weeks to come. During the flowering period guard against wetting the plants overhead. This may be accomplished by a judicious use of the syringe. When it is seen that the crowns are advancing too fast, it will be better to reduce the atmospheric moisture, as it oftentimes encourages this tendency. Too much of the same when no fires are kept in during very hot weather will also foster it. Any stock of plants not yet in their fruiting pots should immediately be attended to. Some suckers may possibly have been taken off in the spring and put into 6-inch and 8-inch pots; these will now be ready to go into fruiting pots. In fact, such should have been the case by June, when in *THE GARDEN*, p. 544, last vol., potting was alluded to. I know, however, from experience how difficult it is at times to keep abreast of the work with the many and increased demands made upon the resources of the garden. To postpone any potting longer than the present is, however, a risky process, not favourable to the plants certainly. At the same time see to the fermenting material. It is a good time now to thoroughly clean out old beds of tan or leaves with manure as the case may be. Not only is it convenient from the point of clearing off old fruited stools, but also from that of safety to the growing stock, as these may now for a few days be stood in an empty house without any risk being run with them. A thorough clearance once every year is imperative, as a Pine stove or pit is the favourite resort of cockroaches, beetles and crickets, as well as other vermin. If painting has to be done, the advice is, do it at once. Do not delay this important, but to many disagreeable work too long until the wood becomes bare and decay sets in. Whitewash all brickwork, examine the bottom-heat pipes to see that the joints are sound, and make a free use of water as near to boiling point as possible in order to destroy the vermin afore alluded to. Whilst attending to the potting, look after any needful quantity of young suckers where the stock is not up to the requisite number. These can be safely wintered in small pots and may be plunged between the front rows of fruiting plants. Even with the hot weather we are now experiencing, Pines should not be shaded as a rule, but if it is seen that the foliage is looking somewhat yellow, it may be advisable to shade slightly; for this purpose fish netting is quite sufficient.

BANANAS.—Plants now in fruit-bearing condition should be liberally treated at the root, being fed if possible with a top-dressing of cow manure. Even before the fruit shows itself, but when it is seen by the swelling of the stem that such will soon be the case, this should be attended to, because the plants need every possible assistance when developing their large panicles of fruit. By giving them every possible aid, manurial and otherwise, it is possible to lengthen out the fruit

panicle and add to the number of the fingers. No shading is necessary, as the Banana withstands all the sun-heat we get and seems to thrive upon it, especially fruit-bearing plants. A brisk temperature is desirable in order to expedite the ripening. Mine now ranges from 70° as the minimum to 95° as the maximum during hot days, being grown in the same house as late Melons. Look after the younger stock, and keep up the same by taking off more suckers when large enough to secure sufficient roots, and pot on those that are growing freely or plant out as the case may be.

PASSIFLORA EDULIS AND P. QUADRANGULARIS.—Where there is sufficient room or convenience these fruits are well worth attention. They are grown with great success, and are much appreciated too in many establishments. Mr. J. Roberts at Tan-y-bwlch grows *P. edulis* with good results, and Mr. Speed at Penrhyn has also done the same with *P. quadrangularis*. Those who may possibly possess these varieties for their flowers only or as climbers, and true to name, will do well to turn them to account for fruiting also. All that is needed is artificial fertilisation in order to secure a crop, of which a goodly number can soon be had. In some houses a canopy of foliage upon the roof would save outside shading; for such a purpose these *Passifloras* may be utilised. If a bare wall needs covering the same remark applies. Neither of them is fastidious as regards soil. I have found *P. quadrangularis* thrive best in rather poor soil. If encouraged too much with rich material it is disposed to grow too luxuriantly, when it may not flower so well. If plants be taken in hand now, being grown in pots until the spring, they will turn out well.

ORANGES AND THEIR ALLIES.—The forward crop of Oranges should now be ripening (those who have once tasted a well-ripened home-grown example will be able to fully appreciate such) in houses that are kept slightly warmed. See that the plants are well supplied with water, and keep them also syringed overhead both for cleanliness and for refreshing the plants. When the foliage is covered with dust or other filth it detracts very much from the appearance of the plants; hence even if time cannot be spared for sponging the leaves separately, it is important to use the syringe frequently. It will be found a good plan to thoroughly wet the plants all over with a solution of soft soap, using the water quite warm, and then as soon as the dirt upon the leaves is well moistened, syringe again with clear water. Two or three such applications will soon brighten up the foliage. Where the shoots still show signs of active growth beyond the green fruits, it will be just as well to stop them and thus encourage the fruit to swell more freely. These remarks apply also to the Lemon and other members of the Citron family, to which, as a whole, more attention should really be given in our gardens than they have for years past been receiving, being of far more importance, adding, as they do, their full quota from a decorative point of view, than the thousands of *Chrysanthemums* now grown just to supply a few mop-headed blooms to each plant, which at the most are of a fugitive character. Pay close attention to any specimen plants that are being made use of outside on terraces and like places, and do not let them be watered in a perfunctory fashion. It is at this season when such plants, by the changing of hands as regards watering, oftentimes come to harm. If it is possible to add a little surface-dressing of decomposed cow manure, do so, and cover the same with fresh soil and press the surface down firmly again. Keep these plants also syringed during hot weather, giving them, in fact, the same attention as if still under glass. These specimen plants may be grown in certain shapes and forms—if so, see to the regulation of the shoots now, rather than in the spring, by pinching and stopping as they may need it.

WATERING OUTSIDE FRUIT CROPS.—The most important item of work just now, where gardens are situated upon soils that are light and gravelly, is that of watering, and even late mulching if

needed be, but in any case watering. If trees bearing their full quota of fruit are not kept sufficiently supplied, a premature ripening takes place, which eventually acts prejudicially on the future well-being of the trees themselves. As cases in point, Apples, Pears and Quinces may be quoted. That it pays to water these, even if extra labour be employed to do it, may be proved by anyone who once gives it a trial. Just at the present time all of these fruits need every possible assistance, more especially when we take into consideration the fact that the rainfall of the current year is below the average. On light and well-drained soils this becomes a serious matter during a prolonged drought. No fear need be apprehended that it is now too late to benefit these fruits in this way; hence, if possible, give the matter early attention. HORTUS.

BOOKS.

RIVIERA NATURE NOTES.*

THE authorship of this little book is veiled in anonymity, but it seems to be the notes of some resident in the Riviera on most things that could interest the naturalist or observer in the place as regards its natural vegetation, scenery, gardens, trees native and introduced, aspects of the seasons, fauna, fruits, &c., and even prehistoric man as revealed to us by the very rich cave discoveries of the region. The book is charmingly written, and does not contain a dull line. It is not easy to imagine one more instructive for anyone who thinks of visiting the Riviera to make him acquainted with all the life of the country.

"In the Saxifrage family," the author says (p. 262) "the Maritime Alps possess a plant of great beauty and variety, the famous *S. Florentula*. It was discovered by an Englishman on the verge of the perpetual snow near the highest crests of the mountains. As no further specimen was found by anyone after this for the space of thirty-six years, *S. Florentula* began to be regarded as a mythical plant. But at last the Abbé Montolivo, an enthusiastic botanist of Beaulieu, and other native explorers confirmed the Englishman's discovery, and the plant is now constantly brought in by the chamois hunters, who sell it for half-a-franc. When you are fortunate enough to find a rare plant of which few specimens exist, it is better not to inform the general public of the exact locality, for the less people know about botany the more anxious they will be to tear it up, if it be in the least degree ornamental. If guides and shepherds once find that a plant is worth sixpence, they will make havoc of the species. But *S. Florentula* is safe from extermination, growing, as it often does, on rocks which are inaccessible to human foot. This rare Saxifrage has a peculiarity which is not mentioned in any botanical work, viz., that the terminal flower of each inflorescence has five instead of two carpels."

In the chapter on "Succulent Plants" (p. 190), which starts with the American Aloe, there are two misprints which to students of Dickens read curiously. Thus "Numpkins" for Nupkins, and "Tingle" for Jingle! The immortal Mr. Alfred Jingle!

"There is a popular idea," the author goes on, "that the Agave flowers only at the age of a hundred years, but the real time is given as the fifth to the eighteenth year. It is stated that the plant may be compelled to flower by cutting off the leaves. The Agaves slashed by the sabres of the French troopers in Algeria are said to have flowered prematurely." The mistake of confusing the Agave with the Aloe is one which is constantly made. The *Storax*, or *Styrax*, flourishes on the western Riviera, and it is well worth while to journey to Hyères in May on purpose to see the bushes in flower. From *Styrax officinalis* incense is obtained. Yet for all the attractions of

its white flowers and yellow stamens and perfumed gum the *Styrax* is not admitted to Riviera gardens. It is different, however, with the white Broom (*Retama*), a bright, cheerful little tree which a Zulu, a Bashi-Bazouk, or even a lawyer might stop to admire. The White Broom it was, and not the Juniper, as mis-translated, under which Elijah lay wishing for death in the desert beyond Beersheba. "Through the snowy canopy of the Retem the angel descended to comfort the prophet." Humboldt described the *Retama* as adorning the peak of Teneriffe at an elevation where no other plant can grow. Of the *Acacia*, which is allied to it, over fifty species are cultivated in the Riviera. The pride of the Cannes gardens is *A. dealbata*, which thrives better there than on the calcareous soil of Nice. In Australia, where it is known as the Silver Wattle, it sometimes grows to a height of 150 feet. *Acacia* flowers in immense quantities are sent to all parts of Europe. The gardeners cut off the twigs and force the flower-buds to expand prematurely under steam, and so obtain blooms about a fortnight before the natural time. *A. Farnesiana* is extensively grown for the sake of a perfume extracted from its golden yellow globular flower-heads. The Shittah tree, of which the Tabernacle was constructed, is supposed to be *A. Seigal*, from which gum arabic is obtained, and *A. nilotica*, a thorny *Acacia*, is thought to be the Burning Bush of Moses. Among the peasantry near Nice there is a belief that "you will suffer if you plant a Cypress." Mortola gardens contain an admirable instance of a Cypress avenue. In the Riviera landscape the slender points of the Cypress and the rolling grey-green masses of the Olive offer a striking contrast. Within a drive from Nice there is a spot where *Pæonies* cover the hillside, and when these plants are in flower, in early May, the Riviera has no finer sight to offer. "Almost too abundant to be ornamental, and as a mass of red quite oppressive to the eye," the Peach tree flourishes in some parts of the Riviera. An Iris with almost black flowers is sold in the Nice market in March: the peasants, however, who bring it in refuse to say exactly where they get it from. There are three kinds of wild Tulips, viz., *T. præcox*, *T. Clusiana* and *T. australis*. *Ornithogalum arabicum* is a wild flower, of such striking beauty, even in this land of flowers, that the author at first supposed it to be a truant from the garden.

The book contains also chapters on birds, insects, lizards, peculiar plants, mosquitos, butterflies and moths, wings and stings, summer drought, &c.

WORK ON A KENTISH FRUIT FARM.*

FRUIT farming being now an important industry, any information regarding it will be welcome. The author of these notes, which appeared weekly in calendar form in the *South-Eastern Gazette*, has a wide knowledge of fruit farming as well as vegetable culture, with a grasp of market ways and prices, and his notes were considered so valuable, that Messrs. Bunyard and Co., of Maidstone, have secured the copyright and are issuing them in book form. He begins at Christmas and deals with all the work on a fruit farm from week to week for twelve months, giving at the end of each week the varieties of each fruit that are in season, as also the prices realised for same. Potatoes are also priced week by week. The author's remarks as to growing too many varieties are to the point. He says:—

"Do not plant too many varieties; an acre or two of a good kind is none too much; in fact, some big growers now-a-days have ten acres of one kind. Jumbling up some dozen or twenty sorts is one of the curses of our home-grown fruit. The Americans know far better than we how to cater for British markets, and they restrict themselves to six or eight sorts; whereas, our farmers do not stop at one hundred and six, many

* "A Year's Work on a Kentish Fruit Farm." By a Practised Man. A reprint with a few additional notes of a series of weekly articles in the *South-Eastern Gazette*. Published by G. Bunyard and Co., Royal Nurseries, Maidstone.

* "Riviera Nature Notes." The Labour Press, Limited, Manchester.

of which are absolutely useless for sale. We should stick to standard varieties—we have plenty of them—and avoid as poison everything that has not a name and a position both on the market and among growers.

The information given throughout the book is sound, and will well repay perusal by those engaged in growing fruit for market, and also those who intend to embark in the same. The book is in a handy form, and well printed in double columns. At the end are given a list of the best paying market fruits, as also a very useful table of weights and measures for London markets.

TREES AND SHRUBS.

THE SNOW TREE.

(*OZOTHAMNUS ROSMARINIFOLIUS*.)

BEAUTIFUL as the *Ozothamnus rosmarinifolius* is in the sultry days of June, with its soft spreading branches laden as if with snow, few are aware how decorative it still remains when the summer days of light and warmth are gone and the skies are grey and cold, the trees leafless, and our gardens bereft of colour and fragrance. The sprays of *Ozothamnus rosmarinifolius*, which fill the jar herewith depicted, were cut a year ago, just as the minute flowers attained their perfection and purity, ere dimmed by storm or rain. Hung up by the base, the stems were left for some weeks to dry and stiffen, and ever since have remained erect and fair, drawing, as the flame does the moth, all visitors who enter the room to touch and test the reality of this fair vision of white bloom; and, indeed, to watch the change of visage when I say, "Oh! it was cut last summer," is quite delightful in its scepticism, especially when I add, "and there is no water in the jar"! Small portions of the Snow Tree (a far happier name than its Latin appellation) cut and dried do not give the same fine effect. It is the soft outline of the branches left in their entire length, some 5 feet or more, that produces the symmetry, and makes of the jar and its contents a picture ever restful to the eye. By cutting the large branches at this season, light and air are given to the new growths in the centre, which will be ready to cut in like manner the following summer. A. L. L.

Spiræa ariæfolia.—This is one of the finest shrubby *Spiræas* grown for grouping on the lawn. Its large white feathery panicles are produced with great freedom, and are most effective at any time, but more especially in the twilight when seen in big masses. Charming as it looks in almost any position, I like it best away from other shrubs and in groups. This year the flowers are late, and only now, at the beginning of August, at their best, and this is a gain, as most other flowering shrubs have now passed their best. A curious thing in connection with a large group of this *Spiræa* is that some of the plants open their flowers weeks in advance of the others, and as this occurs on the same plants year after year and irrespective of position, it leads me to ask whether there are not two varieties, one early and one late-flowering. An excellent use can be made of the sprays by cutting them with the flowers in the bud state and using them for decorating large vases.—J. C. T.

Olearia Haasti.—This, the hardiest of the New Zealand Daisy Trees, is now finely in flower, and blooming as it does during the month of August it is for that reason all the more valuable. The blossoms, too, remain some time in perfection—another desirable feature. It is by no means a graceful subject, forming as it does a dense Box-like bush, thickly clothed with small deep green leaves and completely covered with little Aster-like blossoms. There are many other species

of *Olearia*, several of which are hardy in the west of England and Ireland, where they form handsome flowering shrubs, but in the neighbourhood of London *O. Haasti* is the only one that can be considered hardy. Such species as *O. Gunniana*, *O. dentata*, *O. macrodonta* and *O. stellata* are more ornamental than *O. Haasti*, but too tender for general culture in this country. *O. Haasti* succeeds better than many subjects in close proximity to the sea. It is easily propagated by cuttings, dibbled into pots of sandy soil, and placed in a cold frame towards the latter part of the summer. The frame should be kept close and shaded from bright sunshine till the cuttings have rooted.—T.

The common white Jessamine.—At this season of the year the common white Jessamine asserts itself as one of the most beautiful of all our hardy climbers, the white highly fragrant blossoms being borne in the greatest profusion, while the dark green prettily divided leaves serve as an admirable setting to the spotless flowers. The Jessamine in question is a universal favourite,

continuous blooming of all the shrubby Leguminosæ hardy in our gardens, for it has now been in flower about a couple of months, and the number of unopened buds bids fair to continue the display for some little time yet. It forms a neat growing bush, whose slender branches are clothed with dark green trifoliate leaves, and plentifully sprinkled with spikes of clear yellow flowers, somewhat paler in tint than many of their immediate allies, but withal of a very pleasing shade. The succession of flowers is maintained firstly by the fact that the spikes do not all appear at the same time, and secondly by the circumstance that the flowers at the base of the spike open first and the buds gradually develop, so that one spike will keep up a succession for a long time. Like many others of the Broom family, the roots of this are of such a deep descending nature, that they are less affected by drought than those of many other subjects. *C. nigricans*, which is a native of Central Europe, was introduced as long ago as 1730, and though it can be obtained from most nurseries that keep such things, it is very rarely seen in gardens. Seeds ripen readily, and by this means young plants can be obtained without difficulty.—T.

Eucryphia pinnatifolia.—

It is now over twenty years ago since a coloured plate of this beautiful Chilean shrub appeared in *THE GARDEN*, at which time it was quite a rare plant, and even now though widely distributed it is by no means generally cultivated. The reason appears to be owing to the fact that in many situations it does not thrive as one might wish, and in some districts it is apt to be injured by a very severe winter, while, on the other hand, it will pass unscathed through a degree of cold that would lead one to expect different results. The dark green divided leaves are, if the plant is not in a thriving state, apt to become browned at the edges, thus imparting an unhappy appearance to the whole specimen. In many districts, however, it thrives, and then the deep-tinted foliage serves admirably at this season as a setting to the pure white *Hypericum*-like blossoms. This *Eucryphia* needs a good loamy soil, lightened by a little peat or well decayed leaf mould, and so situated that though well drained it is not at any time parched up. Cuttings of the half-ripened shoots may be struck if put into pots of sandy soil, but it is not at all an easy subject to root in this way. From its bushy style of growth, however, a few of the lower-most branches may be usually layered without any difficulty.—T.

Double pink Bramble.—Though one member of the genus, *Rubus deliciosus*, ranks high as a spring-flowering shrub, one does not, as a rule, associate the Bramble proper with showy blossoms, yet during the latter part of the summer the double pink form is extremely showy, and that, too, at a period when very few shrubs are in bloom. This double pink Bramble, which is sometimes known as *Rubus fruticosus flore-pleno*, and at others as *R. bellidiflorus*, is in the Kew list referred to as a variety (*flore-pleno*) of *R. ulmifolius*. It is of a loose, rambling nature, and if allowed to grow over a few rough sticks it forms a shrub-like mass, which is thickly studded with its pretty pink blossoms. They are very double, consisting as they do of closely packed, narrow petals, a good deal after the manner of



Flowering sprays of *Ozothamnus rosmarinifolius* (the Snow Tree) in a vase. From a photograph sent by Mrs. Lawrenson.

and many a country cottage owes a deal of its beauty to this charming climber. An additional merit possessed by it is the fact that it will succeed in towns better than many other subjects, and not only may flourishing examples be frequently met with in the environs of London, but also in the more populous parts, where smoke and fog play such havoc with all vegetation. The succession of blossoms that is so long maintained is another great point in favour of this charming climber. It has been so long grown in this country that we are almost inclined to look upon it as a native thereof, yet we are told that it was introduced from Persia in 1548. We have now a considerable number of hardy climbers grown either for the sake of their foliage or flowers, and in this latter class in any selection, however rigid it may be, the common white Jessamine must have a place.—H. P.

Cytisus nigricans.—For this Broom can be justly claimed the merit of being the most

some of the double Daisies; hence the name of *R. bellidiflorus*. This double pink Bramble is referred to by Loudon, so that it is by no means a recent discovery. One feature connected with this Bramble, and a particularly valuable one in the case of shrubs that flower late in the summer, is that it will both hold its own and flower well in comparatively dry sandy soils, conditions such as few other shrubs will thrive under. Like most of the Brambles, this is increased by layering the extreme tips of the shoots, which soon root and produce an independent plant.—H. P.

THE MARKET GARDEN.

CUCUMBER GROWING FOR MARKET.

THE Cucumber was never before grown so largely as now, or even to the same perfection. Whole fields are covered in with glass structures that are nothing more nor less than Cucumber houses specially designed for this work alone. We have to-day Cucumbers as uniform throughout their entire length as a gun-barrel. Firmness of flesh also, which is equivalent to better keeping qualities, is far more apparent than was the case formerly when the old Telegraph was considered everything that was good in such things. No Cucumber, perhaps, has ever had so long a run of favour as this, its one best quality being its free cropping. This was undoubtedly most persistent and continuous. But, like many other popular things, the old Telegraph has no known history. The variety was, however, known to me long before its introduction, when it was grown in a private garden, where it had for years been the only kind grown. The gardener was then very old. He had had the variety many years, grown it and saved seeds, but possessed no knowledge of where he got it from or how he came by it. At the time of which I speak the gardener referred to had been some thirty years in the same garden, and I have it in his own words that he had grown the variety for at least twenty, perhaps twenty-five years, which, together with the time it has been before the public, would make it known and grown within seven miles of London Bridge between fifty and sixty years. Since that time, however, many strains of Telegraph, always "Improved," have appeared, the improvement being in many cases but only in name.

SUITABLE STRUCTURES.—No house is better adapted for Cucumber growing in quantity, and at the same time quickly and well, than narrow span-roofed houses. These, if required specially for this work, need not exceed 10 feet in width, "out to out," as the builder would say, which gives an inside capacity of about 9 feet. Indeed, this is not infrequently the given width, clear of work, and in these days of dear bricks and dearer labour much is done with good 6-inch concrete walls, the latter the more simple when erected for Cucumber growing only, because, no side ventilation being needed, the walls of concrete can quickly be run up without the trouble of gauging the spaces where ventilation is required. Where rough gravel is abundant, as it is in some districts, there is a saving also of material by this being dug on the place. In my own case the best Cucumbers are grown in houses each nearly 100 feet long by 10 feet wide and 8 feet in the ridge over all, and with the ends on to south and north, or but very little removed from this. In these the early morning sun is secured, and the setting sun to quite a late hour in the evening. Other houses broadside to the south, while very hot during the hottest part of the

day, are not only slower in sending up the temperature in the morning, but require closing much earlier in the afternoon as a precaution against a too great fluctuation of night temperature, which in these heat-and-moisture-loving subjects is most important. Houses running north and south are much the best, because the benefit derived from solar heat during summer reduces the night changes to a minimum, so to speak, to the great benefit of the crop. Such houses of course require attention in shading, &c., which items will be referred to later on. Ventilation, also an important item, will of necessity be from ventilators hung to the ridge or by way of a complete lantern on the whole length of the ridge, which may be raised any height from an inch to a foot or thereabouts. Such means of ventilation in sharp-pitched houses such as these will be better than the ordinary lights to be raised by hand on the roof, for the reason that the latter would interfere with the training space on the roof as also be in the way of the workmen. I have mentioned but one style of house for the growing of this crop, for the reason that I am for the moment regarding Cucumbers as the crop, year in and year out. In many nurseries, where large houses are in the summer devoted to the work, the structures are 18 feet to 30 feet in width. But such places are not necessarily the best by any means, and neither training, watering, nor top-dressing can be done with the same ease or rapidity. More than this, these large spacious houses, by reason of the greater internal air space, so quickly dry up, unless most carefully watched. Splendid crops are, however, grown in them, and in certain seasons in particular, indeed, some of the most bountiful crops of fruit I have ever grown were in houses nearly 24 feet wide. All the same, I greatly prefer the narrow house, because the soil for top-dressing may be barrowed right in through the central path, from which also all training and other work can be done with comparative ease. There is, of course, no item of greater import than that of

HEATING.—This, it should be stated, must be adequate for the work. In all heating by hot water there is only one right principle, viz., a maximum amount of piping at a comparatively low temperature. Where it is the reverse it is not likely the best results will accrue. When the pipes are constantly heated to excess, insects and red spider put in an appearance. Nor is this the only drawback to insufficiently heated structures. In short, few crops more quickly resent checks and chills, and a crop considerably under the average in bulk as much as quality is one of the surest evidences of something wrong during the early stages. A night temperature of 60° during winter is needed to keep the fruits swelling uniformly; better still if a minimum of 65° can be maintained. For winter work, however, bottom-heat is an essential in some form or other, either conveyed by pipes or by the plants being grown on a side stage which is open to the warmed atmosphere of the house. Dry bottom-heat, however, has its drawbacks, that is, the bottom-heat produced from pipes encased by brickwork, with only apertures here and there for filling up the evaporating troughs. One of the best systems for a uniform bottom-heat is where the pipes lie in water, that is, a shallow cement trench just deep enough for the pipe and covered by slate slabs, boards, or corrugated iron. With such an arrangement the moisture-laden warmth is uniform, perhaps the most important item of all in this phase of Cucumber growing. Generally speaking, however, it is not adopted by market men, and the

next best thing is a manure bed within the house, or employing the raised side stages where the houses are best heated. The manure bed has several advantages, because it is not in the way for a succession crop. In this way with six or eight rows of 4-inch piping in a house 12 feet to 14 feet wide excellent crops may with good management be secured. In the summer-time artificial bottom-heat is best dispensed with altogether; it is, indeed, a detriment to a good crop of fruit, just as much as in winter it is both helpful and essential. During summer the whole of my Cucumbers are grown on a cold bottom, save in two places, where at different points frames with bottom-heat occur, and desirous of utilising all available space are planted in the usual way. In each case while accorded the same culture, save the watering, which is of necessity increased by the position, poor crops are the result. This is so year by year, independently of the fact that for several years various attempts were made to overcome it without success. Under these circumstances I cannot do other than point to the necessity of special precautions being taken, whether in market or private gardens, where the plants are put out on other than solid beds if a full and continuous supply of fruits is desired. Under no circumstances err on the side of insufficient piping, so that in early spring a temperature of 75° can readily be maintained. This is readily secured in houses 10 feet or 12 feet wide, with 2 feet of brick walls to the wall plate, and a ridge 7 feet high, that have not less than six rows of 4-inch piping. The pitch of the roof need not be excessive if a sunk path be made, utilising the soil therefrom to raise the side beds above the level of the soil outside, a not unimportant item in many localities. With the temperature named, it will be possible to cut the first fruits in six or seven weeks from the sowing.

PREPARATION OF THE SOIL is a matter too often forgotten, though it has an importance all its own. Of course there are soils that need but little preparation; many others, however, require a good deal, and it is singular that both classes are usually regarded alike by the cultivators. The top spit of an old pasture, so usually recommended for growing this crop, does not every day fall to the lot of the market grower who has to turn out Cucumbers in quantity, and more frequently old garden soil has to be brought into use. What was intended by "preparing" the soil has really to do with the growth of the plant itself, or rather in relation thereto. For instance, many, seeing they have a fairly good sod of soil, will rest content, and merely cut and stack it in readiness. Yet it does not follow that such a soil, albeit good-looking, should contain the requisite food for the crop in question. Too frequently it does not. The growth of the Cucumber in well-heated structures is altogether too rapid to be benefited adequately by the addition of manures of any kind to the soil in a half-crude state at planting time. Far better that this be done at least six months in advance, and be really incorporated with the soil in the readiest possible means for assimilation by the plant. Even good or old pasture soils may be greatly benefited in the same way, for these are very diverse in quality and equally deceptive, not only in its constitution, but also in richness. An old pasture that has been well done for possibly a generation is one thing, and as such quite a different article may be taken therefrom than much of the so-called "maiden loam," gathered too often on any bit of wayside common, where it cannot support the few blades of grass that gather together thereon.

The former may be expected to yield good results, while the latter can scarcely be expected to do so. Of such as these I warn all growers of the crop who have to make a living thereby not to be too much engrossed by the "maiden" side of the sod any more than the fibre it contains or the colour, all very good in their way, but by no means all-sufficient for producing the maximum amount of a crop of Cucumbers for, say, three months in succession.

RAISING THE PLANTS.—The chief item is that the seed be sound. Sow in boxes or pots of warmed soil, sufficiently moist to need no water at the moment, using a well prepared, rather sandy, and fairly light mixture. Sow thinly, cover lightly, and place or plunge on a brisk bottom-heat, say of 85° or so. Where a brisk heat is kept up for Eucharis, Gardenias, or such things, the young Cucumber plant will find congenial surroundings, and on the bottom-heat just named will be up in a couple or three days—a little longer, perhaps, when the sowings are made quite early in the year. With the first sign of a rough leaf the seedlings may be potted without the least delay, employing rich though light material, perfectly clean pots, into which merely drop the plants, with a slight knock or two to settle the soil. Avoid burying the plant deeper than is needed to stay it in position, and return the plants to the same heat as the seedlings, but without plunging. In cases where the seedlings have been raised in too great a heat there may be some tendency to softness of the stem, and the young plant is liable to damp when in too close a place. To obviate this, the pots or boxes of seedlings may be removed from the bottom-heat to a rather more airy position, with more room between. This will promote a certain firmness of stem that is fairly impervious to damping, at least with ordinary care in watering. From the first each plant must be staked. A few days on the bottom-heat will suffice to re-start the plants, when they will be best removed to the open side stages.

A GROWER FOR MARKET.

ORCHARD AND FRUIT GARDEN.

APPLE EMPEROR ALEXANDER.

THIS is an old and fairly popular Apple of Russian origin. When well grown it is one of the most handsome, the fruits large, bluntly conical in shape, inclined to fulness at the base, and with a closed eye; the ground colour yellow, but in many cases almost the whole fruit is suffused with deep red, and in others the red colouring resolves itself into broad streaks. The flesh is tender, too tender, in fact, to make it a popular variety for market, and during its season, which is a rather short one, lasting mostly only through October and November, it is of good quality as a cooking Apple, but light according to its size. Its handsome appearance has led to its being included among dessert varieties for exhibition, and it is often wrongly passed as a dessert variety, but it has no claims to the position from the standard of quality, and ought always to be disqualified when exhibited in the dessert classes. I find the tree a hardy, stout, but not over rapid grower; both the leaves and flowers are large, the latter very highly coloured and attractive when open or in the bud state. It makes a good orchard tree when grown in bush form. The habit is inclined to upright, but the heavy crops which the trees bear after they become established soon counteract the upright tendency and bring the outer branches into a horizontal position. The tree now and

then, but not often, misses a crop, but in fruitful years the crops of fine fruits brought to perfection are enormous, and if a good sale can be found for Apples early in the season, Emperor Alexander is bound to command the highest prices going at the time if brought to the consumer without blemish.

J. C. TALLACK.

Strawberry Latest of All.—I have nowhere seen this excellent Strawberry in finer form or cropping so well as at Clandon Park, Surrey. A recent writer referred to the variety as bearing closer planting than others because it was rather thin of foliage. At Clandon Park, where the soil is very stiff, the plants, after having been layered into pots, are put out in trebles in the rows, giving them ample room, and the ground is thus sooner furnished. Holes are taken out in the firm ground at proper intervals with a spade, some fresh soil put in, then the young plants

are put on some long straw manure is laid about beneath the bushes to prevent dirt splashing the fruit. No doubt we do not, as a rule, sufficiently hard prune Red Currant bushes. The way in which properly pruned wall bushes fruit shows how they like hard spurring.—A. D.

FRUIT GROWING ON LIGHT SOIL.

I WAS pleased to read the interesting account of "Currant Culture in Kent" (p. 93) by "G. H. H.," for it seems to renew old acquaintance with the Kentish fruit farms, of which I shall always retain a pleasant remembrance. When some years back I removed from Kent to the south coast, I soon found that, although I had brought the love of fruit-growing with me, I had not brought the depth of stiff, holding soil that fruit trees and bushes delight in, so that although I can grow the trees I cannot get the weight of crop from the light shingly soil. As "G. H. H." says, even in the most favoured county, one spot



Apple Emperor Alexander.

follow, and the fresh soil with some of the natural soil well pressed—indeed, hard rammed—in round them. That sort of treatment seems to suit Latest of All admirably. The breadths, as of all others grown, stand for three years. Royal Sovereign put out singly seems to need even more room than does Latest of All in trebles, as described.—A. D.

Red Cherry Currant.—I saw this superb Red Currant in fine fruit at Clandon Park recently. It is no doubt identical with that known as the French La Versaillaise, and certainly is the same as the wrongly certificated Jersey variety Comet. The practice at Clandon is to hard cut over the summer shoots as the fruit begins to ripen. The plants are thus kept dwarf; indeed, the bushes, when a net is thrown over them in the row, are not more than 18 inches in height. The result is, that whilst kept thus compact all danger from splitting is avoided and the bushes are remarkably fruitful. Before the

suits the Black Currant and another the Red and White Currants, and so on through all the varieties of fruits that are grown. Anyone starting a fruit farm should first of all be sure that the soil is deep enough, and of a texture suitable for the crops he hopes to grow, for it is costly work to try and alter the character of even a limited area of land. One of the greatest drawbacks to the culture of fruit on light soils is drought, and in this locality young trees grow freely and soon become fruitful, but in nine seasons out of ten the trees get checked by lack of moisture, with the result that the fruit drops or shrivels on the tree, and if the trees suffer for any length of time the next year's crop suffers as well. Stone fruits, especially Plums and Damsons, if once they get infested by red spider so that the foliage drops, take years to recover; in fact, I am now grubbing up some quite young trees, simply because they do not pay for the space they occupy. On the south coast this is the third year in succes-

sion when fruit crops taken collectively can be set down as a failure, for there are far more trees with scarcely any crop at all than there are with anything like a full crop. The question with the majority is not where they can find soil suitable for fruit trees, but how they can make the soil they have got more suitable for the many kinds they are expected to produce from it. Private gardeners cannot go all over the estate and select the spot most suitable for the fruit garden, but, as a rule, have got the position already set out. Market growers, or anyone that grows for profit, had far better discard any crop altogether for which the soil and position are unsuitable. After trying all sorts of fruits on suitable soil, and that which was quite the reverse, I have come to the conclusion that the safest of all fruits to give a fair return for labour and capital expended is Apples, for with the surface-rooting stocks and care in mulching the roots, so as to conserve the moisture, one may get some return almost every year.

JAMES GROOM.

Gosport.

NOTES AND QUESTIONS.—FRUIT.

App'e Devonshire Quarrenden.—This is an Apple that is widely grown. I think the greatest recommendation is its high colour. Regarding flavour, I consider there are several kinds ripening at the same time of higher flavour, Kerry Pippin amongst them. I have not so much to complain of regarding its flavour as its bad cropping powers. I have trees both in the orchard and in the garden, but none of them ever give a good crop.—DORSET.

New Strawberries.—Raisers of new Strawberries appear to me to have a great weakness for Waterloo as a parent. Why so I fail to see, as anyone who studies flavour will agree with me that Waterloo cannot be classed as first-rate. At least with me it is anything but first-rate. I am aware it is very late. Only recently I saw some new kinds highly praised because one of the parents was Waterloo. The cross had resulted in giving an earlier Strawberry than Royal Sovereign, one of the earliest we grow. I do not wish to depreciate the raising of new kinds, but there are other qualities besides value for travelling, mere size, and appearance to be considered. The quality should be the first point. In showing new fruits, plants also to show crop and habit should be shown, as gathered fruits are misleading, especially when examined in a bruised and uninviting state.—F. R.

ORCHIDS.

CYMBIDIUMS.

THERE IS NO species of Orchid more worthy of consideration than the Cymbidiums. The cultural requirements of the majority of the most popular varieties are within the reach of all in the possession of a greenhouse from which frost can be excluded. Let those inclined to doubt the cool system give it a trial and they will soon be convinced as to which is the better method. Some of the finest examples of good culture which it has been my lot to see are in the collection of Sir F. Wigan at Clare Lawn, East Sheen. These plants are grown in a cool rock fernery, from which Mr. Young tells me there is a difficulty in excluding frost, the temperature often falling below 40° on cold nights. These plants leave nothing to be desired as regards freedom of growth and vigour, while the flowers are produced in such a manner as to draw the admiration of all whose privilege it has been to see them, some of the plants carrying upwards of two dozen spikes, the flowers being also fine in substance and in colour. In Mr. Little's collection at Twickenham the cool system has been followed up for years with desirable results. In the collection of which I have charge I have followed this system for the last five years with

the greatest success. Previously to my taking charge of this collection the plants had been grown in the house with the Vandas, the result being that there was always a difficulty in keeping the plants clean. The growths were weakly and the flowering unsatisfactory. Through additions being made to the glass structures about a year after, opportunities were given which induced me to remove them to quarters where the conditions better agreed with my own ideas as to the requirements most suitable for the successful culture of this species. They have been grown under these conditions for the last five years, with results that warrant me in making the declaration as to the cool requirements at the commencement. The house is a lean-to structure, with an almost eastern aspect. Fire-heat has never been used during the five years the plants have been in the house, unless there has been an indication of frost. There is only a flow and return hot-water pipe in the house, which shows the amount of heat obtainable even in cold weather. The temperature often falls to 45°, and has been down even to 40°. Hanging on the roof is the Chimera section of Masdevallias, while on a shelf at the front is a quantity of the large-flowered Masdevallias of the M. Harryana and M. Veitchi section. The principal condition to be observed in the cool treatment of Cymbidiums is careful attention to watering, and the moisture in the atmosphere during the period of dull, cool weather. I usually keep the house at a temperature of 50° under ordinary circumstances; that is at about the same heat as that usually given to Odontoglossums in winter. In summer the conditions differ inasmuch that the house is kept rather closer, with a more humid condition of the atmosphere maintained to render the plants every inducement to properly mature their growth. I find that under these conditions red spider, which is usually so destructive and troublesome with this species, is considerably lessened; other insect pests also are kept in check. In bright weather during the hot summer days the plants are liberally syringed overhead in the morning, the afternoon syringing being omitted.

The potting compost consists of two parts fibrous loam, to which is added a liberal sprinkling of rough sand or broken crocks. As the plants require plenty of water during the growing season, it is advisable, therefore, to maintain the compost in an open and porous condition. The pots used should be thoroughly clean and drained to one-third their depth with clean crocks. The best time to repot the plants is immediately after the flower-spikes have been removed in the spring. The usefulness of the flowers of such varieties as C. giganteum, C. Lowianum, C. Traceyanum, C. cyperifolium, and others in this section is demonstrated principally in their durability, either by remaining on the plants or used for cutting. I have had examples this season of C. Lowianum lasting in perfection six weeks after being removed from the plants. I have known instances where flowers have been in good condition for three months where they have been kept cool and allowed to remain on the plants. It is therefore necessary, owing to the lasting qualities of this section, to observe carefully the condition of the bulbs, for there is considerable danger in overflowering the plants. It is always advisable, for the benefit of the plants, that the spikes should be removed after they have been expanded a reasonable period. This is especially desirable the first season after the plants have been repotted.

A brief note on the species and hybrids, with a short description, will perhaps not be out of place here.

CYMBIDIUM CANALICULATUM is a native of Australia. It produces long racemes densely covered with small but interesting flowers, the sepals and petals brown margined with green; the small three-lobed lip creamy white, with purple markings. There are considerable variations of this species. One variety recently exhibited at the Royal Horticultural Society's meeting was wholly of a rich plum-purple colour. It is an easily-grown species.

C. DEVONIANUM first flowered in this country at Chatsworth in 1843, having been sent by Gibson from the Khasia Hills in 1837. It is a dwarf but robust growing species, producing broad leaves 12 inches to 15 inches long. The racemes are about 12 inches in length, thickly covered with small attractive flowers. The sepals are pale green suffused and streaked with brown; the lip deep reddish-purple, mottled with greenish white. It requires a position where plenty of light can be procured in the cool intermediate house. It is a free-rooting species, and should have a liberal amount of pot room.

C. Eburneum.—This handsome and well-known species with its ivory-white flowers, with purple spottings on the lip, is one of the most useful Orchids in cultivation. It does well under the cool conditions referred to above.

C. FINLAYSONIANUM is better known in gardens as *C. pendulum*. It produces long racemes of purple and white flowers. It is best grown in the warm intermediate house. There is a variety of this named *C. F. atropurpureum*.

C. GIGANTEUM is an early-flowering and most useful variety. The flowers are each about 4 inches across; sepals and petals light greenish-yellow, veined with rich red-purple, the front lobe yellow spotted with red, the side lobes lined with the colouring of the sepals and petals. It thrives well with the cool section.

C. GRANDIFLORUM (Hookerianum).—This is one of the most distinct and beautiful varieties in cultivation, but unfortunately it is usually a shy flowering variety, and is very seldom seen in bloom. It is worthy of every consideration, and should be included in every collection. The flowers are each about 5 inches across, the petals and sepals pale green, the lip light yellow with lines of purple dots on the inner side, the intermediate lobe fringed at the margin, yellow, spotted with red-purple. It grows satisfactorily in the cool division as advised above.

C. LOWIANUM is the most satisfactory and useful of the whole section to grow for cutting. Its greenish yellow sepals and petals and white and purple lip are too familiar to need further description here. Its constitution leaves nothing to be desired, and it thrives well under the cool conditions as advised.

C. TIGRINUM.—This should be in every collection. It is a miniature-growing species, and is best suited for basket or pan culture. A fine example of this was included in Sir Trevor Lawrence's group at the last Temple show. The sepals and petals are each 2 inches long, light green, spotted and suffused with red at the base; the front lobe of the lip white, streaked with purple-brown; the side lobes yellow, striped with broad reddish brown bands. The flowers are usually produced three or four on the spike. It requires a long resting season and does well under cool conditions.

C. TRACEYANUM.—This is by far the largest and most beautiful of Cymbidiums. It first flowered in the nursery of Mr. H. A. Tracey at Twickenham, having been procured by him in Stevens' auction rooms among an importation of *C. Lowianum*. It was afterwards sold, and passed into Baron Schröder's collection, where it was highly prized and looked upon as a unique plant by all Orchid enthusiasts until during the last three years plants have cropped up from importations, and it has now become a familiar feature in almost all collections of note. The flowers are each upwards of 6 inches in diameter

pale greenish yellow, spotted with reddish brown; the front lobe of the lip creamy white, with reddish brown spots; the side lobes light yellow, streaked with the reddish brown of the front lobe. It is highly perfumed, and is a most attractive, useful, and desirable variety. It has a good constitution, growing and flowering freely under the cool conditions referred to above.

C. CYPERIFOLIUM has flowers very similar in markings and colour to those of *C. Traceyanum*, but the flowers are little more than half the size. The habit of growth is totally distinct. It is a pretty, desirable and useful form, thriving well under the conditions recommended above.

C. MASTERI and *C. ELEGANS* also do satisfactorily under the cool system, both growing and flowering freely.

There are three distinct hybrids that have flowered up to the present. Two of these at least have the intermediate characteristics of the two parents. The third, *C. Winnianum*, indicates that *C. Masteri* was one of its parents to such an extent as to suggest a mistake having been made in its recorded parentage.

C. EBURNEO-LOWIANUM was raised in Messrs. J. Veitch and Sons' nurseries from the species indicated in the name. It has the characters of the parents both in habit of growth and in its flowers. The sepals and petals are creamy yellow, of fine form and substance; the front lobe of the lip has a V-shaped crimson-purple blotch; the remainder creamy yellow, with a bright yellow disc. It does well under cool conditions and is a most desirable form. It has been recorded during the past spring in THE GARDEN report of one of the Royal Horticultural Society's shows that a plant of this lovely hybrid had flowered in a small collection of Orchids at Worthing from an imported plant. It has also appeared in a north of England collection in a similar way. If natural hybrids are likely to crop up in importations of *C. Lowi* in this way they should soon become more plentiful and generally grown, as they deserve every consideration.

C. LOWI EBURNEUM is a Continental-raised hybrid, the principal difference being in the pure white segments instead of the creamy yellow ground as seen in Messrs. Veitch's hybrid. As the name implies, it is the reverse cross of the previously mentioned variety.

C. WINNIANUM.—The parentage recorded is *C. giganteum* × *C. eburneum*. It was raised in the collection of Mr. C. Winn at Birmingham. The flowers are each about 4 inches across, the sepals and petals ivory-white, the small lip ivory-white, densely spotted with crimson on the side lobes. It is a most distinct and pretty hybrid, possessing a good constitution, and is worthy of consideration. H. J. C.

Odontoglossum biconense album.—In place of the usual rosy tint on the lip, this pretty variety has that organ pure white, and this gives a spike of flowers a much lighter appearance. The other segments are deeper in colour than usual, being a deep reddish brown in place of the usual greenish tint. This latter is, however, occasionally seen in the type form. Although an old species, *O. biconense* is still worth growing, the tall spikes of flower appearing now and lasting a long time in good condition because of the number produced. It does better with rather more warmth than the majority of species.

Oncidium prætextum.—Many of the crispum set of *Oncidium*s are fine garden Orchids, and this, with its tall arching panicles of fragrant flowers, is no exception. These individually are about 1½ inches across, brownish, with flaky blotches of golden yellow in the type. In other varieties the yellow is more prominent and the brown less so. It is not easy always to get this plant to grow freely, the strain of flowering being very great. Many plants of it are killed by stuffy hothouses and a too liberal mass of compost. They like best a thin layer in shallow

baskets or on rafts and a place not far from the roof-glass in the Cattleya house. Here the pseudo-bulbs grow hard and strong, and if the flowers are removed after being a reasonable time open the plants should keep healthy. It is a native of Brazil and was introduced in 1873.

PUBLIC GARDENS.

HOLLIES IN GROSVENOR PARK, CHESTER.

THE old cathedral city of Chester possesses one of the prettiest little parks in the United Kingdom, and its specimen Hollies stand, I believe, unrivalled for number, size, and health. This Grosvenor Park is about 16 acres in extent, and was presented to the city by Richard, second Marquis of Westminster, and opened on November 5, 1867. Its undulating surface and sloping banks, skirted by the river Dee, were utilised to the best advantage. The Hollies all over the park are in robust health, and vary from recently introduced ones to specimens 30 feet in height. Hollies and Limes alternately line the sides of the principal walks. Unfortunately, the mistake of neglecting to reckon with the future is too apparent here, for instead of planting both Hollies and Limes 20 feet at the least back from the edge of the walks, they have only been allowed a space of 6 feet. In all likelihood immediate effect was desired, but when this had been obtained and the error seen, the plants should have been shifted another 12 feet or more from the walk. To attempt the removal of these grand, healthy specimens now would be both costly and risky, and perhaps a better remedy would be to plant a second line where the first ought to have been. Twenty years hence would see them fair-sized plants, and the present lot might then be dispensed with. At present all these Hollies along the walk-sides have to be severely cut to confine them to their allotted space, which is a diameter of 12 feet at the base. This confined base leads to the formation of an acute angle between the two extremities in preserving the conical appearance they now possess. In spite, too, of the severe pruning they get annually, many of the plants are encroaching upon the walks, which, by-the-by, are certainly not too wide for principal promenades.

The exceptional fertility of the soil is not limited to the growth of Hollies only, for nearly every shrub within the park is a picture of vigorous health. There are some bushes of *Spiræa arifolia* 15 feet through and as much high. These were literally covered with their creamy white flowers at the middle of July, and stood out conspicuously against the dark green foliage by which they were surrounded. This *Spiræa* is certainly not so extensively grown in private places for the embellishing of the lawn, shrubbery, and the drawing room as its merits entitle it. The white Broom is represented by unusually large bushes at odd corners in some of the shady parts of the park. *Laurustinus*, *Escalonia*s, *Garryas*, *Robinias*, *Crategus*, *Cydonias*, the Service Tree, and many other kinds of flowering trees and shrubs are associated with evergreens, and are luxuriating in the rich soil of which they bear evidence. The proximity of the Grosvenor Park to the river Dee may in a measure account for the healthy appearance of the trees and shrubs. Herbaceous plants, too, grow with unusual vigour compared with those met with in similar situations, and their extended cultivation, or at least those of more stately growth, in masses along the margins of shrubberies might with advantage be encouraged. For this purpose there is any amount of material to select from. Nice good-sized masses at irregular distances along the margins of the shrubberies would materially add to the beauty and interest of the park.

Small as the Grosvenor Park is, it is not without its lake. In this are a few plants of the white Water Lily, which look very pretty. The

last thing, but certainly not the least important, that I should like to draw attention to in connection with this park is an attempt at a botanic garden. A botanic garden in connection with a centre of learning is a decided advantage to students (for a practical lesson carries more conviction and is more lasting in its effect than a purely theoretical one); therefore when one is lacking, as at Chester, a public park is just the place to make up the deficiency. Seeing that the city of Chester is, apparently, still insensible of the value of a botanic garden as an auxiliary to education, all praise is due to the Natural Science Society for the efforts it has made in the Grosvenor Park to supply this want. There is, nevertheless, a good deal more needed to make this botanic arrangement complete. Some of the orders have got into the wrong class. A few orders are without representatives, while a few stand much in need of additions in variety. It might have been better, too, if British plants only had been selected in this botanical arrangement. The only representative of Solanaceæ is a Tomato plant, and the Polygonaceæ group contains a fine clump of *Polygonum sachalinense*. For educational purposes—the study of botany—only British specimens are used, and it should, therefore, be the aim of the Natural Science Society to group under the respective orders the best British representatives of each. J. RIDDELL.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

THE floral committee met in the society's gardens at Chiswick on Tuesday last, 16th inst., and gave awards of merit to the following sent for trial this season:—

TUFTED PANSY BRONZE QUEEN.—A flower of moderate size and fair form; colour rich deep bronze, upper petals bluish purple. It is free-flowering and the habit is fairly dwarf. This is a flower which, to be appreciated, will largely depend upon individual taste.

DIANTHUS CHINENSIS FLORE-PLENO (double Indian Pink).—Large handsome double flowers of this hardy annual, colours rich and varied.

DIANTHUS CHINENSIS LACINIATA FLORE-PLENO.—An interesting and pleasing form, with large double-fringed blossoms of various shades of colour.

CANNA WILLIAM MARSHALL.—A seedling raised at Chiswick, with large individual blossoms of good form, though rather flimsy. The flowers are neatly margined rich golden yellow, the centre of the petals being bright orange-scarlet, spotted with a deeper shade of the same colour. The orange lip, which is of large size, makes up a flower of unique colouring.

CANNA STRADRATH HEIDENREICH.—A very handsome and large spike, carrying magnificent individual blossoms of good form and substance; colour rich glowing crimson. Its richly tanned foliage contrasts beautifully with the highly-coloured flower.

CANNA COMTESSE DE VARTOUX FLORENCE.—This is a charming plant, being beautifully dwarf and freely flowered. The colour is best described as rich orange-yellow, freely and neatly spotted rich crimson. The flowers are of good form and very effective.

CANNA PARTENOPE.—A splendid orange-apricot flower of large size and of good form and substance.

The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, August 23, in the Drill Hall, James Street, Westminster, 1 p.m. to 5 p.m. At three o'clock a lecture on "Perpetual Fruiting Strawberries" will be given by Mons. Henry de Vilmorin.

A Swiss National Chrysanthemum Society.—National Chrysanthemum societies seem to be the vogue just now, and the popular Eastern

flower seems to find enthusiastic adherents in countries where a society has not yet been started. We notice in *Le Chrysanthème* that a Swiss National Chrysanthemum Society has just been started in Geneva, that the rules have been drawn up and circulated and all preparations made for a show in November. M. David Brunet is president, and M. Louis Verréard secretary.—C. H. P.

Italian National Chrysanthemum Society.—This newly-constituted society has just issued the first number of its Journal, which compares very favourably with that issued by the French society, being better printed and on much stouter paper. It contains amongst other things a list of officers and committee men, among whom we notice Messrs. Scalarandis (gardener to the King of Italy), Radaelli, Briscoe-Ironside, Longhi, &c., all well-known Chrysanthemum men. Then follow the rules of the society and a list of the persons at present forming the society to the number of about 160, among whom we notice the names of a goodly number of French and English notabilities in the Chrysanthemum world.—C. H. P.

NOTES OF THE WEEK.

A white Thistle.—In answer to "V. B." in last week's GARDEN, I should like to mention that in walking from Cerpilly to Cardiff on Saturday last, Mr. A. Pettigrew, Jun., and I came across several white-flowered plants of *Cnicus lanceolatus* growing alongside the road.—W. J. THUTHER.

Canna Comte de Bouchard.—This is a very handsome variety, the flowers of large size, splendid form, and carried on spikes of the most elegant description. The colour is a beautiful bright golden yellow, with neat spots of bright red. The green foliage contrasts pleasingly with the flowers.

Abutilon Swatzi is the name of a neat and prettily variegated *Abutilon* that should prove helpful in many arrangements in the garden, conservatory, or sitting-room. The foliage is somewhat small and the habit inclined to pyramidal, while the variegated portions are as light and freely marked as in the well-known variegated *Acer*.

Cyananthus lobatus has been among the prettiest of rock plants for some time, the growths studded with flowers that are quite out of the ordinary style. Indeed, a few such things as this appear more than usually content with the dry and warm conditions of the present summer, and this lovely Himalayan plant is one of their number.

Chrysanthemum Early Blush.—This old variety is one of the earliest to flower, and may be had in fine condition towards the end of July and during the present month. The blossoms at this season are very chaste and beautiful. The colour is a rosy blush, the flowers of neat and even form, and produced freely and continuously for six weeks or more.

Gaultheria trichophylla.—One more note on this plant. Most of the berries have ripened and shed their seed, and there is again—I cannot say a fine display of flowers, because they are carefully hidden by the foliage—now a large number of flowers. Have any of your correspondents seen this *Gaultheria* flower a second time?—E. C. BUXTON, *Coed Drew, Bettws-y-Coed*.

Phlox Lord Bayleigh.—Usually the tints of blue and violet in the herbaceous *Phloxes* are of an objectionable shade and washy besides. In the above kind we have a very distinct shade of colour—a violet-blue tone—that should prove as effective as it is novel and distinct. The usually washy slaty blue tint has no existence in this variety, the most pronounced and novel of its class we have seen.

Hollyhocks.—The heat and drought of this summer have apparently just suited these plants, disease being almost unknown in many collections. It is impossible to describe the charm and beauty of many of the single forms so easily and readily raised from seed. In a garden where shrubs fill every available inch a few plants even of an ordinary strain of *Hollyhocks* constitute a welcome change.

Chrysanthemum Bronze Bride.—This useful pompon, a bright reddish bronze sport from the well-known rose-lilac Blushing Bride, is just now at its best in many warm and sheltered gardens. In more

exposed situations its flowers will be welcome a fortnight later. It is wonderfully free-flowering and rarely exceeds 2 feet in height. It sported in 1894 with the late Mr. W. Piercy, who almost lost the stock in the succeeding winter.

Heliopsis patula.—Compared with perennial Sunflowers and other allied plants, the flower of this is small; still, for all this, it is by no means to be ignored. The rich orange-gold of the ray florets, so very firm in their substance, and the good stiff stems on which the flower-heads are borne, make it an effective subject in the border as well as in a cut state. The habit, too, is by no means gross or so rampant as is the case with many things even when good culture is given.

Carnation Countess of Salisbury.—I send one or two more blooms of Countess of Salisbury. I have grown this variety for years. It does not split and is a splendid late-flowering yellow, better than many of the new ones, very hardy and reliable in the open border.—H. W. WEGUELIN.

*** We hope this variety will not be sent out until it has had a good trial in different soils and situations. We fear these yellow varieties are of little value for the open air.—ED.

Astilbe Gerbe d'Argent.—This, which comes to us from Mr. Cuthbertson, Rothesay, has large erect branching spikes of white flowers tinged with pink. The spikes stand about 2 feet high, 15 inches of this being covered with bloom. It is a welcome addition to the hardy flower border and is deserving of general cultivation. It was well shown at a recent meeting of the Royal Horticultural Society.

Spiræa Bumalda at Arbigland.—At Arbigland, Dumfries, hardy flowers are more largely grown than in former years. In looking over the borders last week I was pleased to see *Spiræa Bumalda* and the variety *Anthony Waterer* in fine condition. The dry weather has affected them less than one would have anticipated, and they made a fine show with their bright flowers. In my own garden they suffered from drought more than usual, but are flowering well still.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Campanula Elatines.—Good plants of this pretty species are by no means common in hardy plant collections, a fact which is in a measure due to the frail nature of the stems and growths that appear to emanate mostly from a central stem, as in *C. fragilis*, and are very liable to snap off. The flower individually is small, yet one of the most intense of the blue shades, indeed almost violet-blue as it expands. For the reason stated it is best if given a sheltered place in the rock garden in a position as free as possible from rough winds.

Tulipa persica.—Now that the time for ordering bulbs is approaching, a few words in favour of the dwarf Persian Tulip may be appropriate. For rock gardens it is of special merit, and I was pleased to see a good clump in bloom last June in the picturesquely arranged rock garden of Lord Ardilaun at St. Anne's, Clontarf, Dublin. *T. persica* is very attractive when its bright yellow flowers open out in the sun. Its dwarf habit enables one to grow it where taller flowers would be out of place, and it has been a favourite with me for a good many years.—S. ARNOTT.

Tulip Fairy Queen.—Bulb catalogues remind us of some desirable flowers. Among these a catalogue just received recalls *Tulip Fairy Queen*, which was in bloom at Straffan, co. Kildare, about the middle of June. I afterwards saw it at Glasnevin. Although not so brilliant in colour as many of the Tulips it is remarkably beautiful. The flowers are large, and may be described as yellow and heliotrope coloured when newly open, but passing off a pretty fawn. It grows about 18 inches high. A comparatively inexpensive Tulip, it ought to be more largely grown.—S. ARNOTT.

Phlox Diadem.—Late-flowering *Phloxes* in this district have suffered greatly from the long-continued drought, which has only passed away within the last fortnight. Even in soil in the best condition the loss of the lower leaves, the dwarfness of the plants, and the smaller spikes

show the effects of the dry weather. In the garden of Colonel Blackett, of Arbigland, Dumfries, I observed some good *Phloxes* in the herbaceous borders the other day. Among these the best was the white *Diadem*. It is not so pure as *Panama* or *Sylphide*, but has a better spike than the former.—S. ARNOTT, *Dumfries*.

Linaria repens alba.—But for its rambling propensities this graceful Toadflax would become more favoured in the border of hardy flowers or the rock garden. It runs so rapidly at the root, however, that it would be well to avoid planting it in the latter or beside the more valuable plants in the border. A corner to itself would suit this pretty white *Linaria* better than anywhere else, and one could imagine how pleasing a mass of it would be in some nook where it could ramble at will. I saw a good plant at Kirkconnell, Newabbey, N.B., the other day. It was more compact than most plants I have seen before.—S. ARNOTT.

Platycodon grandiflorum album is one of the most beautiful of really choice perennials. The plant is not less vigorous than the type, and though not pure white, is somewhat purer than the kind known as *pallidum*, which is rather heavily flushed with blue. At the same time it is a very useful and also an attractive plant, and, seen in company with the deeper blue shades that predominate in this class, all the more acceptable. These *Platycodons* appear to delight in a soil not only of considerable depth and richness, but with grit added quite freely. Beyond this, a partially shaded place, if not indeed essential, is most helpful in prolonging the flowering.

Eucryphia pinnatifida.—This is certainly one of the handsomest shrubs in flower at the present time, and worth a choice position in the garden. Planted on the grass at Kew the plant made but little growth, and then the flowers were not only small, but not nearly so abundant as they should be. Given more shelter, this beautiful bush-like shrub should make much more vigorous and clean wood, and in turn produce also blossoms in plenty. The flowers are pure white, rather cupped, and rendered conspicuous by a large tuft of anthers that are effective when the plants are freely flowered. Flowering examples of this beautiful bush were shown at the Drill Hall last week by Messrs. Veitch.

Lilium Batemanæ.—This has always been a popular Lily by reason of its colour, a reddish apricot, that combined with the erect cup-like flowers makes it most effective in groups in the garden. This Lily does fairly well in the open garden, one of the chief essentials to such a condition, however, being a good depth of thoroughly open material as opposed to those soils that lie close and sooner or later become sour about the bulbs, and where this is the case failure quickly ensues. Good soil with ample drainage should be among the first things to receive attention by those embarking in the cultivation of the choicer *Liliums*. The above kind is only some 2 feet high, and always pleasing and attractive.

Hydrangeas in S.E. Kirkcudbrightshire.—The *Hydrangeas* are, as a rule, excellent shrubs for gardens near the sea, and some attain to a large size in the S.E. of Kirkcudbrightshire. In some cottage gardens good specimens are seen, but the finest in the district are, I think, in the garden of Colonel Blackett, of Arbigland, where there are two huge bushes of *H. Hortensia*. I have known them for a number of years, and this season, while the panicles of bloom are smaller on account of the drought, they are more numerous than before. Mr. W. Houlston, the gardener at Arbigland, finds they do better if left unprotected in winter than if covered, as was the practice at one time in the garden. They are well sheltered otherwise.—S. ARNOTT.

Campanula garganica hirsuta.—There are many members of this genus with larger flowers than this, but very few indeed that are more profuse in their flowering, and, being also of easy culture, there is no difficulty in quickly forming

good patches of it. The variety in question is perhaps best suited to the rock garden, or at least a position where the plant may freely develop and trail over stones or earth. Frequently excellent results follow the placing of this plant in the crevices of old walls, for which purpose it is well suited, and when in flower the free and profuse masses of its rather starry blossoms render it among the most effective. Equally satisfactory is the typical species, though in the flowers alone there is not a great difference, both kinds having soft or pale blue flowers shading to white.

Gentiana septemfida.—A very fine group of this lovely trailing Gentian has been flowering splendidly for some time past in the rock garden at Kew. The group in question is perfectly happy, both growing freely and flowering abundantly, in a position where a good-sized piece of rock affords shade of a permanent and uniform character not only to the growth, but also to the plant when in flower. Above and beyond this, though the condition may too frequently be overlooked in the cultivation of many a choice plant, is the uniformly cool condition existing about the roots. Though the above plant is not usually cited as difficult to manage, it is at the same time not usual to meet with it in such vigour and flowering so well. The shade of blue and the abundance of its flowers are just now a great attraction.

Chrysanthemum Mme. Marie Masse.—Some capital flowers of this kind secured the award of merit at the Drill Hall on the occasion of the last meeting, a fact which at once proves it to be among the earliest of early-flowering sorts. It is, however, possible, judging by the excellent condition of the blooms, that the plants from which they were taken were grown in pots and the flowers protected when expanding. Assuming this to be the case, this does not exactly meet the requirements of the early border Chrysanthemum as intended by the latter term, though there is every proof of its earliness by some plants flowering early in July in the open. These, however, were somewhat premature, and the plants made little growth, while producing a fine head of bloom at about 12 inches high. The major portion of the same batch, however, will not be in bloom for some time to come.

The American Water Lily.—I have sent this morning a box containing a Water Lily which has sprung up in one of the ponds that I have made for Lilies here. I shall be much obliged if you will kindly name it for me in your next number of THE GARDEN. You will notice that the flower is an imperfect one, but it is the only specimen that has showed itself. My gardener has also enclosed two flowers of the common yellow Water Lily for comparison. The leaves of this plant are erect, like Arum leaves, and do not lie flat on the water like the ordinary Nuphar. In the pond with this plant, which first showed itself last year, are also Arums, Aponogeton distachyon, and Nymphaea odorata. All have flowered. Is it possible that this can be a hybrid?—E. H. T.

* * It is, we think, the American Water Lily (Nuphar advena), a seed or bit of which no doubt came in the soil with some other water plants. It is a very vigorous plant, and apt to come up where it is not wanted.—Ed.

Linum arboreum seedling.—In THE GARDEN of August 6 (p. 111) it is said that Linum arboreum may be raised abundantly from seed. It has never been known to produce fertile seed in England, but is confused with Linum flavum, a very hardy and prolific species, which seeds abundantly in English gardens (at least in mine). These two species have been confused in high quarters. Twenty years ago both were growing in Kew Gardens under each other's name, and I called Sir J. Hooker's attention to it and got them set right. It was owing to this mistake that Charles Darwin in his "Different Forms of Flowers" chapter iii., states that Linum flavum has "never been known to make seed in cultiva-

tion." The confusion, however, has less excuse, for in that popular and excellent work *The Botanical Magazine* both were accurately figured and described in the last century by Curtis, *Linum arboreum* as a "greenhouse shrub," in vol. vii., tab. 234 (A.D. 1794), and *L. flavum* as a "hardy herbaceous perennial," vol. ix., tab. 312 (1795).—C. WOLLEY-DOD.

Sternbergia macrantha.—This handsome species, which is now flowering in the open from collected bulbs, is without doubt the largest and most vigorous of its race, and worthy of general cultivation either in the border or the rock garden. The large yellow blossoms are not unlike those of a Meadow Saffron in point of size and form, but possessing rather more substance, are therefore firm, and in the bud state quite attractive also. The bulb is more globular than in other kinds, and in the present instance quite leafless. Judging, too, by the vigorous root action immediately on contact with the soil, there would appear but little fear of the bulbs becoming well established, and if so, it would prove a welcome addition to this class. At the last meeting of the Royal Horticultural Society, Messrs. Wallace and Co., Colchester, set up a group of this handsome bulbous plant in flower, the large golden yellow cups securing a good deal of attention. The examples referred to were about 5 inches above the soil, but would no doubt exceed this when established.

Lychnis Haageana is one of the showiest of all the hardy plants now in bloom, the colour or varying shades of colour brilliant in the extreme, coupled with large blossoms that are borne quite freely where the plants are strong. This strain of *Lychnis* differs in its roots from all else, and on account of their small size in winter are apt to be overlooked unless the position is well marked. All the kinds in this section are strictly herbaceous, not a vestige of growth remaining above ground, while below, the fleshy roots, which are short, incline to be of a tuberous character. Fortunately, the plant produces seeds in plenty, and these may be sown thinly in the open ground as soon as gathered, there to remain till the first flowering of the plant, when the best colours may be selected and planted in groups. There is also considerable variation in the size of the flowers, and by discarding the inferior forms for a year or two a strain of some excellence should result. Rich and warm well drained soil suits them well; in close clay soil the tuberous roots often decay and disappear in winter.

The weather in West Herts.—A very hot week. On three days the highest temperature in the shade exceeded 80°, and on two of these days the readings were respectively 84° and 83°, both of which are the highest shade temperatures recorded here during the present summer. The nights were also very warm, and on that preceding the 16th the exposed thermometer did not fall lower than 58°, which is the highest minimum reading registered by this thermometer in any August for, at all events, the past thirteen years. During the week the temperature of the ground has risen very rapidly, the reading at 2 feet deep being now about 4°, and at 1 foot deep 6° warmer than is seasonable. Half an inch of rain fell during a thunderstorm which occurred on the early morning of the 16th, and for five minutes rain was falling at the mean rate of more than 1½ inches an hour. Some rain-water has come through both percolation gauges on each of the last two days. Previous to this no water at all had come through either gauge for a month, and no measurable quantity for over five weeks.—E. M., *Berkhamsted*.

Weeds.—Gardens ought to be clean and tidy, for what looks worse than crops of weeds? The injury done by a heavy crop of weeds and their removal in autumn is not remedied in one year, for, no matter how naturally fertile the soil may be, the exhausting effect of the weeds will render it

miserably poor. Heavy dressings of manure will in time bring it back to the maximum of productiveness. The period required to accomplish this desirable condition will, however, depend on the soil. Some compositions will "cook" the raw plant food more quickly than others, while the worst forms may take years to rectify. Weeds, therefore, ought always to be kept under. By keeping the Dutch hoe going among growing crops in dry weather the weeds are not only killed, but they act as a manure and the soil is improved by the stirring. Besides these advantages, evaporation in dry times is to a certain extent diminished and the garden made to assume a kept appearance, affording interest and pleasure to all connected with it. In gardens, too, where a vigilant eye has been kept on the weeds for years and they are not allowed to flower or seed, one person can get over a very much larger portion of ground in a day with a hoe than he could where weeds have been allowed unrestricted growth. There is also very little expense connected with the keeping of a garden in a tidy condition and free from weeds with the use of the hoe compared with the expenditure on the neglected gardens we sometimes come across, and the haphazard methods employed in their management. Every effort should therefore be made to keep weeds down in order that the crops grown upon the land may have the exclusive use of the plant food within it, and the garden yield the pleasure and profit for which it was intended.—J. RIDDELL.

LAW.

Action for the loss of MS. of book on forestry.—At Leeds Assizes, on August 11, Mr. Justice Day and a special jury heard the case of *Simpson v. Bain*. In this case the plaintiff, Mr. J. Simpson, forester to the Earl of Wharcliffe, Wortley Hall, Sheffield, brought an action to recover damages from Mr. A. Bain, bookseller and printer, Sheffield, for the loss of MS. intended for the publication of a book. The plaintiff took the MS. to the defendant to be type-written, and it had to be returned to him. The plaintiff handed the MS., which contained chaps. 9, 10 and 11 of the work, as also an original sketch of a forest near Newry, to the defendant, telling him that he had no other copy, and that it could not be replaced. The MS. and the type-written copy were to be returned by Christmas. On January 29 the plaintiff was informed that the MS. had been lost. The jury were instructed to assess the pecuniary value of the MS., which had cost time and money to prepare, and on consideration of the case awarded the plaintiff £100 damages with costs.

OBITUARY.

MR. JAMES PULHAM.

WE regret to announce the death at the age of 78 of Mr. James Pulham, which took place at Broxbourne on Thursday, August 10, after a week's illness. Mr. Pulham had long been one of the best-known men in the garden trade, and was the maker of by far the largest number of rock gardens in the country. He might be said to be the originator of works of this kind far in effect above the old clinker rockeries shown in Loudon's books and many others. Mr. Pulham retained his interest in the work until within a week of his death, and there is hardly a county in England in which examples of his work are not to be seen.

Names of plants.—*F. M.*—1, *Hieracium lactucifolium*; 2, 3, *Leontodon hispidus* var. —*G. H.*—*Ixora Williamsi*. —*E. H.*—*Saxifraga* *Boydii*, a cross between *S. Burseriana* and *S. aretioides*, raised by Mr. Boyd, Cherrytrees, Kelso, N.B., in 1890. See account with coloured plate in THE GARDEN of July 5, 1890 (p. 10). —*A. B.*—1, *Adiantum cuneatum*; 2, *A. acutum*; 3, *A. trapeziforme*.

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THE MARKET GARDEN.

CHERRIES IN KENT.

CHERRIES are among the most popular and profitable of English fruits, and yet as a market crop their production is practically monopolised by growers in Kent. With very few exceptions one might travel through the whole of the home counties without finding a Cherry orchard, proving that there is either something wanting on the part of growers, or else that there are few places where the fruit succeeds well enough to merit its being planted on a large scale. This state of affairs has not escaped the notice of writers on the subject, who, without perhaps fully considering the question—and an important question it is—of soil and situation, have urged the planting of Cherries on a large scale in other parts of the country. So far as I know, Cherry growing makes no great advances anywhere except in Kent, and there in districts suitable for the crop fresh orchards are continually being planted, and hillsides and valleys that once grew hops and corn are now flourishing young Cherry orchards.

In private gardens Cherries generally are grown in the orchard house, or else occupy a favoured position on a wall where the blooms can be protected and the fruit watched and tended until it is ripe. In the Cherry-growing districts of Kent, however, the Cherry needs no nursing, and the hundreds of acres of trees set out in regular lines in the orchards are not only evidence that soil and situation are suitable for the production of this delicious fruit, but also that the growers are well versed in its cultivation. Experience has taught them that the Cherry is fastidious, and without regular and proper care and attention soon ceases to be profitable. Some fruits demand more from the cultivator than others, and the Cherry is a case in point. Everyone has seen old Apple trees that, in spite of being a thicket of gnarled branches covered with Moss, continue to bear

good crops of fruit. Roots and branches have been allowed to go their own way for years, and yet the tree bears, and will continue to do so till old age and impaired action destroy it. A Cherry tree neglected in the same way soon becomes an encumbrance, but with the branches kept judiciously thinned, the head of the tree open, and food given to the roots, the Cherry will continue to bear till it becomes a forest tree in size.

Such conditions, however, can only be obtained where the Cherry is at home, and from the reputation Kent has for the fruit, there are some who have an impression that it is a country of Cherries and Hops. Such is not the case, however, and the tract of land which produces the majority of English-grown Cherries is largely composed of brick-earth. Most people associate a brickfield with a mass of wet, cold, heavy clay, where no vegetation grows except rank coarse grass, and about the most unlikely place one could well imagine for growing fruit. Kentish brick-earth is of different composition, being a rich strong loam that will grow either corn, Hops, Potatoes or fruit. Probably one of the finest tracts of land for fruit growing in this country stretches from Chatham to Sittingbourne and the surrounding neighbourhood, and for Cherries it is unsurpassed. Whether brick-making or fruit growing is the more profitable it would be difficult to say, but the industries follow each other in rapid succession and both are lucrative. The fruit grower comes first, and plants bush and standard fruits, including Cherries, which go on for their appointed time. Then the plant of the brick-maker appears in the field, and a depth of from 6 feet to 12 feet of the top soil is converted into bricks. The ground is not a waste after the brick-maker has had his share, as one would naturally suppose, for the fruit grower is close on his heels, and before the whole of the top crust has passed through the kiln, planting is in operation at the other end of the field, and in a few years' time the brickfield is again a smiling orchard. I do not know whether there is any other

district in the country where the soil will first grow fruit, then make bricks, and finally grow fruit again, but such is the case in the locality referred to, and in some of the finest orchards I have seen not only Cherries, but Pears and other fruit occupy the sites of worked-out brick-fields.

Striking indeed is the great contrast between a Cherry orchard, either when in bloom or when the rich red fruit peeps out from a mass of foliage, and the smoky, sulphurous surroundings of a brick-field. Yet they are to be found side by side, and each represents an industry. Here the Cherry is at home, and for miles the orchards stretch away on either side. The brick-making element mars the beauty, but it does not appear to affect the growth of the trees, and the low-lying ground reaching away towards the sea is intersected with creeks, where barges rest on the mud during low tide and are loaded with bricks which they bear away when the water rises, and return in due course deep in the water with the weight of London manure for the use of farmer and fruit grower. London manure is not to be compared with good material from the farmyard, but the fruit grower cannot get the latter, while the former, which serves his purpose on soil so fertile, is readily obtained at a low cost.

Spring and early summer are anxious times for the Cherry grower. Sharp frosts often spread disaster when the trees are in full bloom, and later, when the fruit is set and the grower begins to congratulate himself that the crop is safe, a terrific hailstorm may riddle the tender foliage and send the tiny Cherries to the ground in a hopeless mass. Fortunately, there have been few such complaints this season, and generally crops have been fairly good. Prices also have been satisfactory. Cherries to be lucrative must be grown *en masse*, as birds have a distinct partiality for the luscious fruit, and a solitary tree unguarded would be stripped before the Cherries were fully ripe. From the time the fruit begins to turn a close watch has to be kept in the orchards.

The fruit on many acres of Cherry orchards is annually sold by auction to persons who afterwards pick and market, reaping the profit or suffering the loss, as the case may be. Prices vary according to the quantity or scarcity of the fruit, and it requires no small amount of judgment to form an accurate idea of the state of crops generally and the quantity of fruit in the orchards that passes under the hammer. The Cherry buyer often lays down hundreds of pounds as a speculation at the beginning of the season, and has to pick and market before he can turn his money over. As soon as the fruit is fit for picking, orchards present a busy scene of activity. Long, heavy ladders, broad at the bottom and tapering upwards, are brought into the orchards for the purpose, huge piles of round hampers are placed in readiness, and men, women, and girls with smaller baskets slung on their backs mount the ladders with agility and pick the Cherries with dexterity. It requires experience to place the heavy ladders so as not to break the trees, and one would hardly consider the branches of a Cherry tree to be the right place for women, but much of the picking is done by female labour and accidents are not common. When the fruit has gone and leaves have fallen the ladders are again brought into use, this time for the thinning out and cutting away of dead branches and the setting of things in order for another season. The Kentish Cherries are confined to a few varieties. Early Rivers is being planted in new orchards, and amongst the sorts most largely grown are May Duke, Kent Bigarreau, Napoleon, and Morellos. Varieties bearing local names are also met with.

G. H. H.

CUCUMBER GROWING FOR MARKET.

PLANTING OUT.—Provided plenty of heat is at command, the plants should be ready to put out in the third week from sowing the seed, a good stage for the operation being when the first pair of rough leaves is fairly well developed. Indeed, for all practical purposes it is impossible to err on the side of too early planting, the rapid growth of the Cucumber plant at all times under the best cultural conditions amply repaying any extra exertion to secure this. Now and again, when the previous crop is not over by the time the Cucumbers are ready, I have been compelled to repot into larger pots to partially save the check that must ensue. The actual planting is a very simple affair. See that the soil has been in the house a few days to get thoroughly warmed through, the place perfectly clean. I limewash and fumigate with flowers of sulphur all my houses after each crop. A very good plan, albeit a very old one, in small places is a bed of long manure for bottom heat, this, of course, would need preparing also to dispose of very rank steam and the like. It is not adopted in my case, but a good layer of manure, cow manure preferred for summer crops, is placed throughout the bed at the rate of a load to a 60 feet house, and covered with soil rather firmly beaten. On this the mounds or hillocks of soil are placed, about half a bushel being given to each plant. This and the dressing below will doubtless appear to many too liberal and liable to produce an over-luxuriant growth to the detriment of the crop. Such, however, is not the case; indeed, so small a dressing could scarcely be, and when we remember the depth of manure often given to a single frame for Cucumber growing, it is an open question whether we place sufficient under the plants indoors. Some market growers use none at all, but these either have their hands

continually in the artificial manure bag or have to be satisfied with smaller crops of smaller fruit. The planting merely consists in opening a hole in the mound of soil of sufficient depth for the plant and firming the soil. Cucumber roots travel deeply as well as horizontally with rapidity, and may also be depended upon to descend into any rich food, producing at the same time root fibres in abundance without the necessity of offering encouragement from the burying of the stem. More than this, the plants so buried not infrequently die as a result. With respect to

VENTILATING OR NON-VENTILATING, each grower must decide for himself. If the plant is merely wanted to carry fruit for a given time and then be discarded, the non-ventilating system will answer fairly well, as it does also in those instances where successional batches are planted after the first big flush of fruit is gathered. But where the plants are required to give their maximum of fruit and remain in good condition as long as possible, then ventilate by all means, and that freely, if occasion permits, always, however, by the top ventilators, opening and closing according to circumstances and season. From this time, the

TRAINING OF THE PLANTS must be a matter for daily attention. All laterals that appear close to the ground should be removed, not allowing any within 15 inches of the soil, and push the leader on as rapidly as possible by directing all energy in this direction. Consequent on the space to be covered, the whole of my Vines are allowed to extend the main stem to 7 feet or 8 feet before the point is taken out, this being done as soon as the tip reaches the desired height. While such growth is in progress the laterals extend but little, and quickly spread out when the upward flow of sap is in part arrested. Train the laterals in moderately close to the stem and sufficiently wide apart to allow each to get light and room to develop. The removal of some of the largest leaves from the main Vine will help to accomplish much in this direction. In respect to training the Cucumber, one frequently reads that the fruiting lateral "must be stopped at the first joint after the fruit." There is no gain in this, and the trellis is only encumbered by useless material, which has to be removed later on. A well developed lateral will fruit both at the second and third joint, and in the early stages of the plants it is quite common to be able to count twenty or more fruits showing from the laterals alone. These, however, are always more numerous where the plants have not from some cause or other been allowed to fruit on the main rod. The chief object of the market grower, too, is to cover space only with fruiting wood, and to this end stopping is done at the fruiting joint, *i.e.*, the second fruiting joint from the stem. Where specially fine fruit is needed, the grower here and there may be satisfied with one to each lateral. Of course, many fruits show that do not perfect themselves; indeed, it goes without saying when the lower laterals are crowded with long and heavy fruits that the upper branches with their burden have not much chance. It is just here, however, that the difference between special culture and the ordinary methods become manifest, and most certainly the plant will pay for doing well if at all. An equally important matter is

TOP-DRESSING. The amount of soil already in the hillocks should carry the plants safely till the first show of fruit on the laterals; this, in my experience, is the best time for a liberal addition, placing the bulk between the mounds, as also in front and behind them, the object being to widen the bed rather than increase the

depth of soil. Under no circumstances should the old soil be dry when the new is added, nor should the latter be dry. Top-dressing has a far greater importance than is usually ascribed to it, and too frequently I see plants practically worn out and exhausted because of the mere fragment of soil in which they have been grown. The plants are always much longer-lived if a liberal supply of soil be given from the first show of fruit, and where this principle is followed out the majority of fruit will be of the best quality. It is a stock saying that Cucumbers do not like the roots buried deep in soil, but this truism should not be interpreted to mean that the plants are best when given but a meagre supply. A small supply of soil, which of necessity has to be watered much more frequently than is good for the crop, is mainly responsible for small and crooked fruits; therefore I strongly advocate liberality in this respect, and by extending the bed as above suggested the main roots will still be quite near the surface. In applying these top-dressings, see to it that the soil is kept as nearly level as possible, and not in holes for the water to lie in.

WATERING and damping down, important though these be, can hardly be dealt with here, so much depending not only on the season and the time of year, but equally on the position the plants occupy in the houses. For instance, plants on the soil floor, or only separated by manure, cannot compare with others on a stage 3 feet above the floor, the latter even with a good bed of soil will need constant care and daily watering even in ordinary weather, while those on a solid soil bottom will be kept more moist if watered on alternate days. In places where the raised side stages are employed for this work, I would strongly advise a good thick layer of cow manure 4 inches or 6 inches deep on the stage and made firm as a moisture-holding medium before placing on the soil. This should modify matters a little at any rate.

THE DISEASES AND PESTS attacking the Cucumber are not numerous, if difficult to combat. The worst of them is eel-worm in the soil. Indeed, nothing beyond clearing out and charring the soil and roots will destroy it. This is more troublesome in those instances where Cucumbers have been grown for years in the same houses on the floors; indeed, unless the bottom is made of concrete, there is no way of preventing the roots travelling downwards to the old soil. A dressing of soot and lime will in some measure assist if applied rather fresh before the manure is put in. Green-fly and red spider must be kept in check from the first, as nothing more quickly brings ruin to the plants. These seldom give trouble when a good clean start is made as suggested in the opening of these notes. Occasionally mildew will appear with cold and sunless weather, but by removing the affected leaves and syringing with a solution of sulphur this may be speedily checked. Indifferent ventilating, combined with the above, will also assist to the spread of mildew. Wireworm and woodlice rarely attack more than the young plants, and by a little exertion both are readily destroyed. Woodlice are best attracted to baits of Potato or the like and then destroyed with boiling water.

VARIETIES.—At the present time there are many good varieties, some of the most popular being Rochford's Market, Covent Garden Perfection, All the Year Round, Telegraph Improved, and Matchless, being all good and free. Apart from these are some newer kinds of much promise, of these I am not in a position to speak definitely as to their cropping. Some of the

most handsome fruited kinds, while indispensable for exhibition, are comparatively useless for market work.

MARKETING.—Careful grading is as important as good culture. If possible, send only the prime to market if the latter be at some distance, and distribute the remainder nearer home. In cutting, some care also will be needed, and avoid handling the fruit too much. Packing is equally important, and should be so accomplished that movement is quite impossible in any direction. For packing nothing is better than fresh green grass, used quite clean, first lining the bottom and sides of the hamper, and each layer, as the fruit is placed in position. Of late even more attention has been paid to packing, every fruit being separately wrapped in tissue paper also. Where this is done, good clean hay makes excellent material for filling in and lining sides, &c. With a knowledge of the variety grown, it is easy to arrange the size of the boxes for packing so as to avoid empty and worse than useless space. Boxes or hampers, however, of the following size will accommodate three dozen good fruits, or two and a half dozen selected, the measurements being all in the clear: Depth, 8 inches; width, 15 inches; length, 18 inches.

AVERAGE PRICES.—Quite early in the season, *e.g.*, April, the average price is lower than at the end of May, and frequently June; indeed, I have repeatedly known 2s. per dozen returned in the former and 3s. or 3s. 6d. per dozen in the latter months. Much depends on demand. The best paying months taken over an average of several years are May, June and July, during which prices range from 2s. 6d. to 3s. 6d. per dozen in London markets. Better prices are secured, however, by large firms who have their own salesman and to a large extent their own customers. From the beginning of August onwards lower prices prevail, 2s., 1s. 6d. and even lower per dozen being by no means a remunerative price, even with a big crop to cut, and cost of carriage and commission extra. It is in circumstances such as these that the provincial grower would do well to distribute his fruit locally if possible.

A GROWER FOR MARKET.

ORCHIDS.

DENDROBIUMS.

THE majority of this fine genus are essentially spring-flowering Orchids, brightening that part of the year with their chaste and showy blossoms, but there are several fine species and varieties that flower now, and such plants are specially useful where a display is expected throughout the year. Although in many ways the culture of most Dendrobies is similar, there are certain minor details that may be touched on with advantage respecting those kinds now in flower. For instance, where a house is set apart as a Dendrobium house many of the deciduous kinds will by now have perfected their growth, and the temperature and atmospheric moisture must both be reduced. Many others again are beginning to grow, while still another section is in the middle of the growing season. Here much care in arrangement is necessary, and the plants in the warmest end of the house in early summer have to change places with sundry of the Australian kinds now commencing to grow. The deciduous kinds mentioned above will take the sunniest part of the house until quite finished, when it is an advantage to the majority to go into quite a cool, airy, and comparatively dry structure

until the resting season is past, whence they are again taken to the growing quarters. It is not possible, however, to reduce the autumn and late summer-flowering kinds to a section, so much do they vary in their individual requirements, and the purpose of this note will be served more fully by a short description of some of the better-known kinds now in flower or approaching that stage.

D. DEAREI, as an instance, is one of the best known and most useful in the genus, the flowers appearing in the greatest profusion on healthy, well-grown plants, and being, moreover, pure white excepting a slight stain of green on the lip. They last well in good condition, and are, therefore, useful for cutting as well as for decoration on the plant. Position has doubtless a good deal to do with the health or otherwise of this species. I have known it grow well in a house devoted to Cucumbers principally, the strong heat and moisture suiting it well, but for success over a long season a more rational mode must be practised. Heat and moisture are very necessary, and the plants will not thrive without both, but towards the end of the season when the growth is over it needs ripening as much as any of the true deciduous species. Grow it as rapidly as possible from the time the growths start until they are quite finished, and if the plants are taken out during the flowering season keep them from cold draughts as far as practicable. This species was named by Reichenbach after Colonel Deare, who discovered it in the Philippine Islands about 1882.

D. FORMOSUM blooms at various times, but usually in late summer and autumn. It belongs to the nigro-hirsute section, and is one of the finest. Though not exactly a success under cultivation, the immense number of plants imported annually keeps the collections in this country well supplied, and the lovely pure white flowers with golden centre are always looked for. Briefly, it requires an almost unshaded position close to the roof-glass, where heat and moisture are abundant. If grown in pots these should not be large, as the roots will not take freely to a large body of compost. In baskets well drained with plenty of rough, open material they are quite at home, and delight in growing in and out of the rods, where they get the advantage of the sun and the moist atmosphere. In this way immense stems or bulbs are produced, and these with a circlet of nearly a dozen large flowers towards the top are very beautiful. Let it have its own way as to growing and resting, but always endeavour, if possible, to let the growths ripen in autumn, and keep the plants at rest afterwards.

D. INFUNDIBULUM is quite a different plant from the last-named, though belonging to the same set. The stem-like pseudo-bulbs in the strongest plants are 2 feet or more in length, but not much thicker than a lead pencil at the base, swelling a little in the centre. The blossoms are very chaste and lovely, pure white, with a dense yellow centre to the lip and more plentifully produced than those of *D. formosum*. This does not like great heat; it is better to grow it with the *Odontoglossums* than in a very high temperature, as in the latter case it is sure to be overrun with insects, black thrips in particular. But the best place, or at least where I have personally had the best results, is close to a ventilator in the coolest part of the Cattleya house. Here it grows to a good length, flowers abundantly, and keeps as well as any of its class to a proper routine of growth and rest. If taken to the cool house at all it should be when at rest. The pretty *D. Jamesianum* is usually supposed to be a variety of this species, and requires if anything cooler treatment than the type. The usually shorter bulbs seems to point to this, and I believe the longer-bulbed varieties, even of *D. Jamesianum*, like a little more warmth and grow more freely than the shorter ones.

D. LEUCOPHOTUM is not a generally grown species, but a distinct and pretty one. It is of rather large growth and the flowers are small for

the size of the plant. They are produced in longish racemes, are pure white excepting a little green at the base of the lip, and appear in late autumn. It does best in the warmest house, and likes a decided period of rest after flowering. A good deal of care is necessary when the young growths are starting, as they damp off readily, but otherwise it is probably as easily grown as any. It is a native of Malay, and was introduced about 1880.

D. STRATIOTES and **D. STREBLOKERAS** are singular and not very common Dendrobies, the flowers having curiously twisted petals that at first sight have the appearance of antennæ belonging to some large insect rather than a flower. Like the majority of the New Guinea Dendrobiums, these species like a very sunny position and high, moist temperature while growth is going on, careful treatment of the young growths when only a few inches in length, and a decided period of rest when they seem inclined to take it, whether this is in summer or winter. Very similar treatment is enjoyed by *D. d'Albertisi*, the well-known *D. Phalenopsis*, *D. canaliculatum*, and others, all of which sometimes flower in early autumn.

H. R.

Cattleyas at Rougham.—Though not a very large collection is grown, there are some splendidly cultivated plants in all the better-known species at Rougham Hall, Bury St. Edmunds. The growths are not only remarkably fine in every instance, but clean and in good season. The old *C. labiata* will soon be a splendid show, the immense sheaths now showing being sure to produce a large number of flowers. *C. Bowringiana*, too, is very fine, the light green of the young foliage and bulbs indicating the best of health. *C. Trianae* and *C. Schrederiana* have made splendid bulbs, while *C. Mossiae* is not far behind. The plants at Rougham are kept in medium-sized pots, and though not disturbed oftener than necessary, the compost is not allowed to get out of condition before repotting takes place. The temperature is kept well up and the plants are not unduly shaded.

Miltonia Regnelli.—The flowers of *M. Regnelli* are as beautiful as any in the genus, and it is a plant that should be grown by everyone. It helps to keep a bit of colour in the houses in a dull season, and if carefully treated is not difficult to manage. The pseudo-bulbs are 3 inches high, the flowers occurring about four or five together on erect spikes. They are about 3 inches across, the sepals and petals whitish with a tinge of rose in some forms, the lip streaked with deep crimson-purple and white on the margin. It does well on a raft in a shallow basket suspended from the roof of the Cattleya house, and during the growing season delights in abundant moisture both at the roots and in the atmosphere. Even while at rest no drying off should be practised, but a considerably reduced supply of water is needed. Although discovered by M. Verschaffelt's collector some years before, the first occasion of its flowering under cultivation was in 1855.

Lælia Perrini.—While not quite so showy as some of the *labiata* Cattleyas, this fine old *Lælia* is quite an indispensable plant to the Orchid grower who likes a bit of colour in the houses during the autumn. The species is occasionally imported and often the plants are in a very dirty state when received. They are also badly shrivelled in many cases, but after a thorough cleansing and a few weeks in a warm, moist house they bear quite a different complexion. The plants should commence growing and be thoroughly plump before being potted up, and until roots appear crocks only are best for them. As soon, however, as the first roots can be seen, let them have the benefit of a little Moss and peat; they will then soon establish themselves. Not being quite so strong in growth as many of the Brazilian *Lælias*, care in the earlier stages is required, but there is no peculiar difficulty in its culture. The flowers are very open and well displayed, having rather a flatter appearance than

those of most Orchids. The type has rosy purple sepals and petals, lip deeper, with a yellow centre, and there are not many named forms of it, the most distinct one being *L. P. nivea*, which has whitish sepals and petals and a paler lip than the type.

CYPRIPEDIUM SCHLIMI.

It is a great pity that this, which is certainly one of the prettiest of all *Cypripediums*, is not more generally grown and amenable to culture. The charming little flowers show prettily against the deep green of the foliage when the plants are healthy. The branching spikes produce from six to eight flowers, each about 2 inches across, the sepals and petals pure white with a pink or green tinting just at the point of each, and in some cases a suffusion of purple. The round labellum is white with a blotch of deep rose and a not very open throat. It has been urged that partly owing to this the flowers are fertilised with their own pollen masses in their native haunts, and in consequence what was a strong member of the *Selenipediums* has gradually, owing to self-fertilisation, obtained a weak and impaired constitution. Under cultivation it is certainly not an unqualified success, but sometimes one meets with finely-grown plants. The newly-imported specimens arrive in this country often with a whitish, muddy deposit, as if they had grown in a wet, swampy place, and some growers, taking this as a hint, have grown their plants with a great deal of moisture about them, even going so far as to stand the pots in deep saucers of water. I have seen very fine plants grown in this way, but it is very necessary before allowing all this moisture to see that the plants are well established. To place badly rooted plants into a wet mass of peat or loam will not do, and before anything else endeavour to set up sufficient root action. At first the plants may go into the *Cattleya* house in a shady, moist position, but when they have had a season here and are well rooted they do best in the cool Orchid house or in a shady cool fernery. The compost will vary with the strength of the plants, only a very thin surfacing of peat and Moss sufficing for the first season or two, but after they have got strong, a much heavier compost and more of it will produce a stronger and more vigorous growth. The usual mixture, in fact, as advised for *Cypripediums* may be used and the surface kept below the rim of the pot. One of the most remarkable points about this *Cypripedium* is the fact that it is seldom out of flower, owing to the number of spikes produced and the length of time the individual blooms last. It is a native of New Grenada, and was introduced about 1854.

Masdevallia senilis.—The flowers of this species are very singular in form, and though not so large as those of some of the nearly related kinds, possesses in a remarkable degree that quaint-like appearance so common in the genus. The ground tint of the sepals is a pale primrose spotted with very deep red, and covered with a profusion of white hair-like processes. It is nearly related to *M. Chimara*, and, like it, does best with a little more heat in winter than is usually considered necessary for the more showy flowered kinds. It is a native of New Grenada, and was introduced by Messrs. Hugh Low and Co.

Cattleya Hardyana.—Flowers of this superb *Cattleya*, some of medium quality only, come from several correspondents. In its best forms it is a lovely plant, a natural hybrid between *C. gigas* and *C. aurea*, liking a full *Cattleya* temperature, plenty of light when growing, and a distinct resting season after the flowers are past. It occasionally flowers upon unseasonable growths, but it is far better to keep the plants to the proper routine if possible. When repotting, keep the young growths well back into the centre of the pot or as far as possible, as when the leads grow and root over the sides they are thereby weakened.

Cypripedium ceananthum superbum.—This is one of the best known and finest *Cypripediums*

in the section of hybrids to which it belongs, and a magnificent garden Orchid owing to its splendid constitution. The foliage is deep green, and the tall, erect spikes carry fine, richly-coloured flowers. The upper sepal is a pretty combination of purple, green and white, the petals and pouch deep purple, the former having a yellow area near the base. It should be grown in quantity everywhere, and thrives in almost any description of compost. Some fine plants noted this week were carrying a large number of flowers, having been grown in nothing but top spit loam and a little chopped moss and charcoal. It sounds rather a heavy mixture, but this and many other *Cypripedes* were evidently quite at home in it. In an intermediate house with a reasonable amount of shade and ample moisture it grows well and soon makes a fine specimen. Even where there is no Orchid house many of these hybrid *Cypripediums* may be grown, and capital subjects they are either for cutting or decoration. Their easy culture and freedom of flowering make them especially Orchids for amateurs.

Cypripedium Godefroyæ.—I have noted some very fine forms of this beautiful *Cypripedium* in flower during the week. It is one of the prettiest of all, the foliage as well as flowers being very attractive. The latter are about 2½ inches across, very full, and with broad segments of a clouded white tint freely spotted with deep brownish purple. The culture of *C. Godefroyæ* is similar to that of its allies, *C. bellatulum*, *C. concolor*, and *C. niveum*. Plenty of warmth and moisture is essential, and most growers have found advantage in using limestone in lieu of crocks as drainage or mixed with the compost. There is no doubt that in its native habitat *C. Godefroyæ* is a good deal exposed to the sun and light, much more so than the South American *Selenipedium* section. For this reason the plants should be kept well up in the house, and I have seen plants in bad condition rapidly improve by being placed in small pans and suspended close to the roof glass. Shading, of course, is necessary, as if exposed to the sun under glass the foliage would be ruined, but at the same time the plants must not be overdone with it. *C. Godefroyæ* is named after M. Godefroy, of Argenteuil, who first introduced it about twelve years ago. Its habitat is on one of the many small islands about the Malay Peninsula, where it grows on limestone cliffs.—H.

FLOWER GARDEN.

GENTIANA ACAULIS.

A GOOD deal has been written from time to time concerning the soil requirements of this favourite old garden plant, which is, however, not one of those things that everybody may grow when and in what soil he chooses. Of the actual requirements of the plant, Mr. Wolley-Dod very tersely sums up the whole matter in some recent notes on the genus. This summing up is so essentially true in my own experience, that I am tempted to offer a few remarks in confirmation thereof. In the cultivation of this plant the most essential condition is that of drainage; this is indispensable, and it is a matter of little moment whether the roots are in sandy soil, peat or very light loam. So long as the drainage is attended to, the plant will be more or less a success. It seems, however, most perfectly happy either in light loamy soils overlying gravel or a rather heavier loam overlying red sandstone rock. In these, as well as in peat, the plant flowers most profusely. Of its success in light soils over gravel, I recall the splendid edgings formed of the plant to a great variety of beds of hardy things in the late Mr. Parker's nurseries at Tooting. Here the smallest of bits, single pieces in fact, could be planted as an edging, and form in a couple of

seasons fine flowering tufts that were a sight in themselves. As an edging to Phlox beds the *Gentian* was always used, and from its position and the very narrow paths—for no particle of space was wasted—the plants were as frequently trampled on as the reverse. Yet all such was borne by the stout leathery leaves with impunity, and in spring the flowering would be as abundant as ever. No care was taken of the plant; it was a success anywhere in these nurseries, and equally so at the adjoining nurseries of Messrs. Rollisson. The Tooting district is noted far and wide for its great depth of gravel and light, easily-worked soil. A similar success attends the plant here in the Hampton district, where the soil is rather more loamy than at Tooting. In both instances any amount of gravel may be dug within a couple of feet or so of the surface. Again, in the Chester nurseries the plant is a success, for though the soil is heavier, the plant seems well suited above the red sandstone that is common round about. I remember a long line in the Newton nurseries, as also a large bed and numerous edgings, that always at flowering time were a very fine sight. In the neighbourhood of the Crystal Palace, where the soil is generally more clayey, and in some instances very retentive, growth is not only slow, but meagre, and flowers few and far between. In several districts where a peaty soil obtains success is almost a certainty and the growth rapid and abundant. In a garden near Gloucester where the soil is heavy, cracking badly in summer, and with a subsoil of lias clay, I experimented for years with a considerable variety of additions to the original soil with no better result than formerly. In this garden I have seen tufts nearly a foot across that never produced a single flower doing no better when divided and replanted in fresh positions and soil. In some parts of Buckinghamshire a very similar condition prevails, large and almost flowerless tufts being quite a frequent occurrence. At the same time where the *Gentianella* is a complete success it is among the most delightful of garden plants, and should be made the most of accordingly.

E. J.

Self Carnation Royalty.—This very fine deep bright rose self was raised by Mr. J. S. Hedderley, of Nottingham, an enthusiastic amateur, with whom originated many years ago the fine scarlet-flaked *Carnation Sportsman*, a sport from Admiral Curzon, scarlet bizarre. *Royalty* is of medium height, it produces good grass for layering, the blooms have thick shell-like petals, and the developed flower is full and highly symmetrical, while it does not split its calyx, a common fault with many *Carnations*. It does not appear to have been widely distributed, but I think it deserves a place in the most select lists of selfs for its fine quality.—R. D.

Carnation Garville Gem.—I this season planted out in the open border some plants of this heliotrope-tinted *Carnation* which were bloomed last year, but not layered. When they were planted the longest shoots were pegged down on the surface, with the result that they have flowered abundantly, and the flowers being smaller they have not the coarseness sometimes seen in the case of young plants strongly grown. In addition to Benary's *Theodore*, which does not unfortunately possess a strong constitution, it is, I think, the only other named variety of a heliotrope shade. *Theodore* is not only a flower of fine shape, but it is also very fragrant, but, owing to its delicacy of constitution, few can grow it. On the other hand, *Garville Gem* is of vigorous growth. There is this danger about treating one-year-old plants as I have done: They go to bloom growths and but little grass is produced which can be layered.—R. D.

TOWN GARDENING.

Town gardening—gardening that is in the heart of a city—must always be to a great extent disappointing and unsatisfactory, for the conditions cannot be other wise than unfavourable and unsuitable. Something, however, can be done, as the accompanying illustrations show, and the dreary monotony of walls can at all events be relieved. Wall gardening seems to offer the best scope for effort in towns, for walls truly are “ever with us,” and rising grimly from flagged areas are rather a despair. The accompanying small illustration gives a suggestion, which was

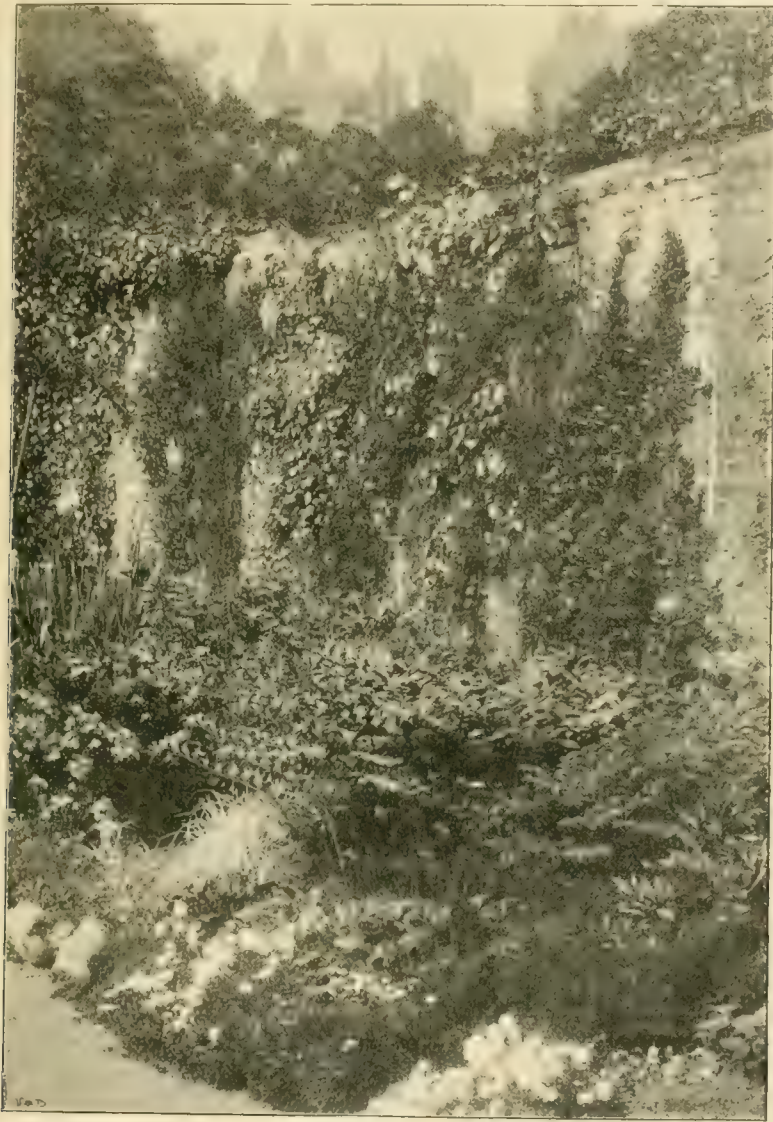
direction meet with a certain limited degree of success, but in order to derive much satisfaction or enjoyment from them, sedulous cultivation of the habit of thinking about what we have rather than of what we have not is necessary. Nothing is luxuriant in town, and many things perish altogether. Still, most ordinary herbaceous plants, such as Larkspurs, Phloxes, Sea Hollies, and Doronicums, grow and flower; Pinks, Carnations, Irises and Chrysanthemums do well. Tulips, even the rarer species and all the best tall late-flowering ones, also do well. Daffodils thrive very indifferently, and all except

for many years, it is now by no means common. The bulbs of this variety are indistinguishable from those of *L. speciosum* Kratzeri, which are sent here from Japan during the winter months in such huge numbers. Occasional examples of album novum crop up among these importations, which, by the way, are usually disposed of as *L. speciosum* album. From Kratzeri, which is now pretty well known, album novum differs a little in the foliage, which is less pointed, while the flowers are as a rule somewhat larger, more massive, and less regular in outline than those of Kratzeri. In this last the greenish stripe down the centre of each petal is very noticeable, but in album novum it is much less pronounced, or altogether wanting. The principal distinguishing feature is the colour of the anthers, which in Kratzeri are chocolate-brown, while in album novum they are clear yellow. The blossoms of *s. album novum*, too, open generally a few days before those of Kratzeri. Of the white-flowered varieties of *L. speciosum* the above-mentioned two are among the best, and to these must be added the old album, which is largely grown by the Dutch. In this the exterior of the bloom is tinged with chocolate, but the inside is clear white. A variety of this colour, which is, at least as far as I have ever seen it, absolutely worthless, is *album corymbiform*, whose irregularly-shaped blossoms are gathered together in a confused jumble. The bulbs, too, split up after flowering much more than those of any other variety. *L. speciosum* in most of its forms is a grand Lily for the open border, but some varieties, particularly this clustered kind just mentioned and the pretty pale-tinted *punctatum*, are not sufficiently robust to flower well in the open ground; hence this last is more adapted for pot culture than as a border Lily.—H. P.

FLOWERS OF THE WANING SUMMER.

THE breath of autumn trembles through the air and again the robin's song is heard. Let us look around before the flowers of summer vanish. *Lilium testaceum* has been lovely. The erect stems rising here and there in groups beside the wide-spreading branches of the old crimson China Roses gave the satisfying upward lines that the eye demands so often in the garden. Especially beautiful were they when, outstripping the garden wall, they reached the background of the distant hill, veiled as it might be in the soft blue haze of morning hours, or clear and deeply blue when rain clouds swept along with sunny gleams between. Their days of prime are over now, but the scarlet Martagon Lilies show brilliantly among the vivid green of the Montbretias just coming into bloom, and so also do the later Gladioli with their bold spikes of glowing colour. A touch of coolness is given by the soft sprays of *Erigeron speciosus* as they fall scattered among the taller leafage. Carnations and Mignonette scent the air. Nothing can well be more delightful than a bowl of these blossoms for indoor fragrance; the exquisite colouring and spicy odour of the Carnations and the all-pervading sweetness of the Mignonette are wholly satisfying, while from out the past comes the fresh light of other days, as their perfume, like an electric spark, touches the memory and recalls the hours and scenes of bygone years.

In the more shaded portion by the pond, Delphiniums, that elsewhere have shed their petals, are still fresh and fair. Growing as they do in ground thick set with other plants, they have used them as kindly supports with the happiest results. In one case the tall stems have passed up through a Crab Apple tree and stand erect, gleaming out through the branches. Another Delphinium has clambered into the tall yellow Scabious, which in turn finds support in the silvery Tree Lupin, and yet another has been caught into a Pampas Grass. These happy accidents, from lack of leisure to bind the stems with branched supports, are very pleasing. Nature in the garden is better left to her own will than given help which is inadequate or destructive to the lines of beauty.



A herbaceous border in a town garden. From a photograph sent by Miss H. M. White, Charleville, Roscrea, Co. Wicklow.

the common stronger sorts seem to die off altogether after the first year or so. Some Lilies succeed, notably white Martagons, which do as well as in the country. Solomon's Seal, Megaseas and *Saxifraga peltata* are also good with me.

H. M. W.

Lilium speciosum album novum.—This white-flowered variety of *Lilium speciosum* has been well represented at many exhibitions of late, among others at the meeting of the Royal Horticultural Society on August 9. It is certainly a grand form, but, though grown to a certain extent

originally made to me by my friend Mr. Burbidge, as to one way in which area walls may be clothed. All the plants figured are grown either on flags or in stone pockets, which makes this kind of gardening possible in the humblest back yard. Climbers, such as Ivy, Jessamine, the small-leaved Virginian Creeper and Muhlenbeckia, are planted in stone boxes on the area flags, while the pockets on the walls are filled with Irises, Wallflowers, Snapdragons, Pinks, Creeping Jenny, trailing Veronicas and Saxifrages. The larger illustration shows part of a small herbaceous border. Efforts in this

Spiræas are at their best by the water's edge, notably *S. palmata*, with flower-stalks and blossoms of rosy crimson. A poor plant in hot, dry soils, it is here a most attractive one, with profusion of flower and leafage, and passing through the severest winters unharmed. Even when out of bloom it is still interesting, having the crimson stems headed with rosy seed vessels. *Spiræa gigantea* with its bold leafage is a noble plant; its pliant stems, some 8 feet high, toss and sway in the summer wind. It, too, has its roots in the moisture, and its creamy flower-heads show out in fulness against a dark group of Scotch Fir trees rich in the blue-grey tint of their young growth. *Eryngium alpinum* by the water-side has its crown of wild bees clustering round the spiny purple heads of bloom, lying there intoxicated by whatever nectar they extract. Beside the *Eryngium* is *Inula Hookeri*, with its erect flower-stems surmounted by the gold-rayed blossoms.

The Rowan berries are ripening, and when they are scarlet we know that these fair flowers will have passed away; but autumn's hand is bounteous, and holds in store for us wealth of flower and fruit, of colour and fragrance. A. L. L.

FLOWER GARDEN NOTES.

THE much-needed rain came on the 7th, and the flowers are looking brighter and fresher than for a long time. We have been unfortunate in this part of Surrey as to the rainfall, storms that visited other districts having passed us by, and as an outcome of the long-continued drought all moisture-loving plants have suffered considerably. Where facilities for watering do not exist they were losing their foliage. Any *Spiræas* not in a shady position were quite a failure, the spike never emerging from the bud stage; the exception was found in *filipendula*, but the powerful and rambling root action of this variety gives it a great advantage. I was on the point of re-mulching and heavily watering beds of the newer *Phloxes*, or I should have had a very poor display, and this despite the fact that the beds were autumn-planted and both well prepared and mulched. The rain has freshened these up wonderfully, and if the plants are run through to remove the dead pips I shall get plenty of later bloom from the back buds. The large white variety *Snowdon* seems to withstand the drought almost better than any. Of things which a dry season seems to increase rather than diminish the profusion of bloom, as, for instance, *Sisyrinchiums* and *Antirrhinums*, it has been noticeable that the flowers were not nearly so long retained, and I have cleared all the earlier spikes from the latter. This, however, having been effected and the rain following closely on the operation, the secondary display will soon be at its best. Tufted *Pansies* have stood their ground well, but watering in their case was absolutely necessary, and naturally any amount of attention in the removal of dead flowers. Plants from cuttings have certainly done better with me this year than divided stuff.

BRIGHTLY-COLOURED FLOWERS FOR CUTTING.—*Monarda didyma*, more commonly known as *Bergamot*, stands remarkably well when cut. I have a piece before me in a small vase that has been in that position ten days looking as fresh as when it was gathered. It is one of the plants that will flourish in partial shade, and is looking well at present associated with clumps of *Chrysanthemum maximum*. *Dahlias* are doing remarkably well this year. They came early into bloom and are flowering very freely. I have not any of the new varieties, but plenty of bright and attractive flowers are now to hand of *Gloriosa*, *R. Cannell* and *Sidney Hollings*, three good older sorts. On a north-west border *Carnations* in crimson and scarlet still in flower are *Uriah Pike* and *Mephisto*, *Hayes' Scarlet* and *Guardsman*. An old favourite, *Murillo*, has done remarkably well this year and supplied a lot of flowers that, although considerably removed perhaps from first-class form, have been good in colour and even

in form, with not the slightest tendency to split. This latter characteristic varies considerably with seasons and situations. Mrs. Reynolds-Hole, for instance, and fancies like *Cardinal Wolsey*, *Goldfinder*, and *Sir B. Seymour* are very fair in some years, and in others will burst the calyx directly the bloom is expanded. I had a variety sent last year from a considerable distance that was certified a non-splitter, but on this soil it is one of the worst offenders. Other bright flowers to hand at the present time are *Gaillardias*, both annual and perennial, and *Godetia Gloriosa*, the latter a decided acquisition and the best of this shade I have seen. Some of the things on which I rely to furnish material for cutting are this year extremely late, for which the dull, cold spring was doubtless responsible.

HARDY FLOWER BORDERS.—The mention earlier in these notes of certain things that in exposed situations are never at their best in a dry summer reminds me to suggest that at this time they may be marked with the view to autumn removal to more favourable sites. Any very common things that may have been planted at the outset to fill in the borders quickly may be similarly noted to be replaced by better things. The preponderance of a particular colour in various parts of the border can be altered, as one of the attractions of such borders is variety as well in colour as in different plants, and this can be effected at the same time that sufficient of each is planted to show it to the best advantage. As the season draws to its close the variety in colour of plants still in flower is considerably lessened, but in summer there is no difficulty in obtaining it. Attention should be constantly given to any plants whose season is naturally short with the view to improve the same by the prompt removal of all dead and decaying flowers, such things for instance as *Sweet Peas*, *Poppies*, and others. The flowering season of some of the newer forms of *Poppy* may be extended through the greater part of the summer given attention of this kind. At the same time, I hardly think it advisable to include them on borders devoted to the best herbaceous plants. The foliage, given a dry time, is apt to take on a brown dingy appearance rather early in the season.

Claremont.

E. BURRELL.

***Campanula lactiflora*.**—This plant is mentioned now nearly every week in the gardening papers, but many correspondents still seem to believe that *C. celtidifolia* is a different plant. The two names, however, are absolutely synonymous, one being, I think, E. Boissier's and the other M. Bieberstein's name, both given independently about the same time to the species, which they found in the Caucasus. The accepted name is given in "Index Kewensis" and the "Kew Handy List of Hardy Plants" as *C. lactiflora*. The colour of the flowers ranges from dark purple, through every paler shade down to white. The average life of the plants is about five years. The self-sown seedlings under favourable conditions produce three or four flowers the first year and grow at most a foot high. The second year they grow to 2 feet or 3 feet and throw up several stalks. The third year they may be considered full grown, and, according to soil and situation, range in my garden from 5 feet to 8 feet high, bearing sometimes as many as thirty large panicles of countless flowers. When soil heaps once become infested with the seed, plants come up in every corner of the garden and sometimes grow up in the middle of evergreens, so as to be ornamental. The great drawback to the species is its frailty, the panicles being broken to pieces by gales if not securely fastened.—C. WOLLEY-DOD, *Edg. Hall, Malpas*.

Crinum Powelli.—For this beautiful hardy *Crinum* we are indebted to the hybridist's skill, it having been obtained by the intercrossing of *Crinum capense* and *C. Moorei*. It is in every way a far finer plant than *C. capense*, and is hardier than *C. Moorei*. In order to obtain the best results, the planting of *C. Powelli* should be

thoroughly done, for the huge club-like stems, often a yard or so in length, should be placed at such a depth that fully two-thirds of the stem is below the surface of the soil. The exposed portion of the stem may be covered in the winter with dry leaves, and in this way the bulbs will pass through severe frosts without injury. The long strap-like leaves are so brittle, that rough winds play sad havoc with them; hence, in planting, as sheltered a spot as possible should be chosen. In an angle formed by hothouses or in some such a position, this *Crinum* will succeed perfectly, the additional warmth from close proximity to the heated structures just meeting its requirements. In planting, the soil should be taken out to a good depth (3 feet at least), and the hole re-filled with loam and well-decayed manure, as it is in such a compost as this that we see the *Crinum* at its best. Drainage is necessary to its well-doing, and where the soil is of a clayey nature it is often an advantage to put some bricks or similar material in the bottom of the hole.—T.

BULBS FOR THE FLOWER GARDEN.

AT this time of the year, when the bulb lists fall on us from all parts thick as the leaves in *Valambrosa*, it may be well to think of the wisdom of avoiding certain errors likely to lead to waste of money and time. It is not only this we have to guard against, but also that people are so much discouraged in this and like ways that they sometimes give up the effort. Perhaps the first most important thing is to avoid things that are not really hardy enough for our country. The difference in the value and production generally of plants that are really fit to take their places in the climate, and come up year after year to remind us of their presence, and those which live only by reason of delicate attentions at some time of the year, such as winter protection, annual planting or sowing, is very great. Although our climate is not one of the fairest in the world, it is wonderful what a number of things are perfectly hardy in it in the way of trees, shrubs, and flowers. It is not merely that we have to guard against difficulties of climate; but in many cases there is a distinct unfitness of soil apart altogether from geographical position. It is quite common to see things doing better in Norfolk, for instance, than in Sussex, owing to the influence of lighter and warmer soils. The *Tiger Flower* (*Tigridia*), for example, is easily grown in many parts where there is fine warm soil, yet it is almost useless to attempt to grow it in many parts of the country. In Ireland the common *Crown Anemone* of the Riviera and Southern Europe generally is quite hardy, and, owing to the warm friable limestone soils in the coast districts, it is possible to grow it almost as freely as a native plant; whilst in cool places and heavy soils it is useless to plant it, and if we do plant it, it soon dies out. The same is true of the beautiful *Ranunculi*. They are not hardy in Britain generally without special care in late planting and protection. We have no doubt that in the coldest parts, if one took care to protect these beautiful Persian *Ranunculi* and plant them at the right moment, they could be successfully grown, but that would mean a great addition to the labour of a place. The nobler hardy *Iris*, *Narcissus*, and *Lily* may be left for years in the same place, and we may be sure that, if anything, they will improve if the soil be right. Among the plants we see often in lists, and which are of extremely doubtful value for the country generally, are *Babiana*, *Ixia*, *Sparaxis*, *Ferraria* (save in very warm soils), *Diates*, *Lycoris*, *Milla*, *Cypella*, *Hypoxis*, *Morea*, *Merendera*, *Oxalis* (as a genus save two or three kinds); and these mainly are useless because our climate and soil are unsuitable for them.

Apart from considerations of unfitness of soil and hardiness, it may be well to consider that undue attention is very often given in English gardens to certain other families that are free enough as regards growth. We think *Hyacinths*, which always take the lead in bulb catalogues, are valued out of all due proportion, being stiff and

often ugly, especially out of doors. They are not nearly so good for the outdoor garden as many other plants, and much money is spent on them which might very well be expended on things of more lasting value and finer form. Another family which is found in some Dutch lists in great numbers is the Allium, but, beyond one or two kinds, such as the Naples Allium and A. roseum, and a few other kinds which may be useful as curiosities, we fail to see what there is in these Alliums to entitle them to take a place in catalogues to the extent they do. Many of them are quite inferior as garden plants, and nearly all have the evil smell characteristic of the family. Alstroemeria, a really fine and beautiful family, is extremely difficult to cultivate in cold soils and districts, but delights in limestone and other warm sandy soils.

Even where there is no question of the beauty or hardiness of the plants, as in the Crocus, it is curious how in some places any attempt at naturalisation ends in the plants dying out; in other warm soils, chalk and the like, they take readily even under Beech trees. And we must take such things into account, best judging by results. Where we find a family doing well, the best way is to encourage it, and try other kinds of the same.



Wall gardening. From a photograph sent by Miss H. M. White, Charleville, Roscrea, Wicklow. (See p. 157.)

Of Snowdrops, for example—where they thrive, and they by no means thrive everywhere—it would be right to try the many new forms, sometimes called species. So again the Lilies, of the beauty of which there is no doubt, and which, with few exceptions, are hardy. They are fanciful about soil. The rosy and white forms of *L. speciosum*, for example, however well treated, very often dwindle away in some stiff soils, blooming the first year or two, and then—perhaps assisted by the too common disease in some way—one stem only is seen where a dozen used to be, and, finally, the plants die out altogether. In other soils, small plants thrive and rapidly increase, many Lilies taking much more freely to warm, light soils, or soils which have much leaf-mould and peat in them. Where the natural soil is of this nature, it should encourage us to give a fair trial to the many Lilies now in our garden flora.—*Field*.

Asclepias tuberosa.—This is both one of the showiest and one of the most uncommon of good hardy perennials. What in many instances may be termed large established clumps can have

little or no meaning with the subject of this note, which in large plants is perhaps among the rarest of hardy perennials. In point of fact, "clumps" of this would be somewhat difficult to secure owing to the formation of the rootstock or tubers. At the same time this does not dispose of the difficulty generally experienced in getting the plant to flower at all, while in some soils the plant simply refuses to grow with any treatment. In British gardens some difficulty attends the culture of this excellent plant. In winter, too, even when a good start has been made with seedlings, it will be found the slugs below ground have made havoc with the crowns, and if the crown is destroyed in the first year there is but little hope after. The best soil for the plant is one that is deep, warm, rich, and well drained, the last a most important item. If seeds have been secured, these should be sown in drills in well drained and manured ground, selecting a spot where there is little fear of disturbance for a couple of years. Sow the seeds rather thinly and allow the young plants to make two seasons' growth without disturbance, finally transplanting them in the end of March to very rich and light ground. During the winter there is very little to be seen of the plants, so completely do they go

to rest and so little do the tubers develop till about the third year. With age and given rich and deep soil, there is a tendency on the part of the roots to descend deeply into the earth; therefore, they should not be much buried when planting. Eight or a dozen seedlings will form a group 2 feet or 2½ feet across, and by giving a warm, sunny exposure and specially preparing places in this way a much greater share of success may be secured.—*E. J.*

Distinct varieties of *Lilium auratum*.—The golden-rayed Lily of Japan is represented in our gardens by innumerable forms, but it is only to a few of the most distinct that varietal names have been applied. In this respect it differs altogether from *Lilium longiflorum* with its long list of varieties, between many of which there is little, if any, difference. Still, there are a few clearly defined varieties of *L. auratum*, one of the most striking of which is *rubro-vittatum*, in which there is a broad crimson stripe up the middle of each segment. When first opened the blossoms of this are remarkably bright and showy, but the coloured portion soon loses its brightness and becomes more of a brownish hue, when, of

course, it is much less effective. All the individuals of this variety are by no means of equal merit, some having the crimson band far more clearly defined than others. In the very richest form, to which the name of *cruentum* has been applied, the numerous spots are also of a deep crimson tint. In direct contrast to the preceding we have the variety *virginale*, or *Wittei*, in which the flower is of a pure unspotted white, with the exception of a golden stripe down the centre of each segment. It is extremely chaste and beautiful, and is by many preferred to the crimson-banded variety, but the two are really so distinct from each other that no comparison can be drawn between them. In one respect at least *virginale* claims superiority, and that is, the blossoms remain in an effective condition longer than in the other. The third variety to be mentioned is *platyphyllum*, which is altogether a more vigorous plant than the typical *L. auratum*. Besides its more robust and taller growth, as well as the increased width of the leaves from whence the varietal name is derived, this also differs in the flower, which is larger, more massive, and a good deal shallower than that of the type. All of these varieties are imported from Japan during the winter months, and as a rule they realise good prices. The bulbs of *platyphyllum* differ from those of the common *L. auratum* in being larger and with broader and more massive scales of a yellower tinge. On the other hand, those of *rubro-vittatum* and *virginale* are comparatively small, but even then they flower well.—*H. P.*

NOTES ON HARDY PLANTS.

***Jasione perennis*.**—This is worth more attention than it seems to have. I cannot say how long it is since I saw it especially so fine and bright as this year. It is a low grassy plant with a long thin stem surmounted with flowers suggesting those of the bright and beautiful annual *Centaurea cyanus*.

***Dianthus Atkinsoni*.**—For many years now I have mentioned this plant, and be it understood this identical plant. There are some who still insist that it is not a perennial variety. My one specimen plant, now so full of flowers, and more brilliant than even the Poppies, is no less vigorous than ever, and in the identical place where it has flowered for a long series of summers. It is not more than 1½ feet across, but it might have been much larger had it not been cut and culled from for cuttings every autumn. It proves infinitely more easy to grow and propagate in this garden than the fine double-flowered *Napoleon III*.

***Inula ensifolia*.**—This is the most desirable of all its tribe that I know for the rock garden. There is a neatness about the whole plant which, when in flower, is but 9 inches high. It is rigid and flowers a long time, and is without the running root habit common to some of its genus.

***Teucrium pyrenaicum*.**—I find this very charming alpine plant more often met with in trade and other catalogues than as a flourishing garden plant. It would not matter so much were it not one of the most distinct and lovely of all the things we get from alpine habitats. Just now it is flowering at 2 inches high, the white and purple flowers nestling in congested whorls of bract-like foliage, and the lower parts of the procumbent stems are closely furnished with almost round, crenate, wrinkled, and deep green shining leaves. The effect of the herbage just now is almost that of a rosette form. I fancy the reason it is scarce may be that young stock is exceedingly hard to keep through the first winter. I have no difficulty in getting nice rooted twigs in the autumn, but nearly all go off both in the open and in cold frames in winter. I feel sure that neither the coldness nor the changeableness of our climate can be the cause. I have reason to believe the remedy for this will prove to be in taking off-sets with pieces of two-year-old root-stems.

***Gerbera Kunzeana*.**—Can anyone say if this differs much from or is identical with *G. lanugi-*

nosa? My plants coming on from seed cannot so far be distinguished from those of *G. lanuginosa*, which I know well, and know it to be a perfectly hardy species, though the curious flowers are but indifferent judged by the standard of beauty of the better-known *G. Jamesoni*.

Pheasant Grass (*Apera arundinacea*).—This beautiful grass is worth growing at any cost, but the fact that in the place where I stood out flowering plants last summer there is now a lot of self-sown seedlings may furnish a hint as to the hardiness of the species.

Campanula pulloides is one of the pretty things raised in the gardens at Coombeishacre by Mr. Archer-Hind, by whose kindness I had a plant two years ago. It comes in, as indicated by its name, somewhere near pulla, and suggests itself as belonging to the tribe embracing such hybrids as *G. F. Wilson*, *turbinata*, and other forms of *carpathica*. The features distinguishing it are chiefly the deep purple colour of its numerous bells and its lateness. The plant is only 3 inches or 4 inches high, and of a pretty tufted habit, the foliage larger and rounder than in *C. pulla*, and more after the *carpathica* style. Though not over vigorous, it is much more so than pulla. With me *C. pulla* is but an indifferent perennial.

Hypericum olympicum.—This is one of the dwarfier shrubby St. John's Worts, only having a stature of a foot or so; its terminal flowers are remarkable for their great size and beauty. A note should be made of this plant for the warmer nooks of rockwork. J. Wood.

Woodville, Kirkstall.

TIGER LILIES.

IN most places the Tiger Lilies are rather later than usual, but are none the less welcome on that account, supplying as they do a colour which is but little represented among plants in flower. There are several forms of the Tiger Lily in our gardens, and the one that is now in most general cultivation is the variety *splendens* or *Leopoldi*, which differs in many well-marked features from the typical *Lilium tigrinum*. The principal items of difference from an ornamental point of view are the larger and brighter coloured blossoms, and the fact that the foliage is as a rule retained in better condition than in the other forms of the Tiger Lily. The spots on the petals, too, are larger than in any of the others. Besides these we have the double-flowered variety, which at one time was thought highly of, and it still remains as the best example of a double-flowered Lily in our gardens. Still for all that it is not (at least, from my point of view) nearly so beautiful as the single forms. The variety *Fortunei* is extremely woolly in all stages of growth, and its flowers are rather lighter coloured than those of the others. Enormous bulbs of this variety are sent here from Japan during the winter months, and favourably situated they push up a very strong stem, crowned by a large pyramidal-shaped head of blossom. These varieties of the Tiger Lily vary somewhat in their season of blooming, the first to open being the typical kind, then the double-flowered form, closely followed by *splendens*, and last of all we have the variety *Fortunei*. The bulbs from Japan are much later in flowering than the other varieties, but when *Fortunei* is grown in this country and under the same conditions as the others, it is not far behind them. The Tiger Lily and its several forms may all be regarded as good border Lilies, for they will flower well in ordinary garden soil. On the other hand, they are seldom happy under pot culture, unless it be the variety *splendens*, which proves very amenable to this mode of treatment. They are all perfectly hardy, and succeed well in good sandy loam. T.

NOTES AND QUESTIONS.—FLOWER.

Mentha Requienii.—I should be glad to know if any of your readers have found this plant growing

wild in the British Isles. It is not given as a native plant in Sowerby's "Botany," and in the "English Flower Garden" it is said to be a native of Corsica. I found it the other day growing in great profusion and luxuriance in a village on the south coast of the county Cork, where, if it is not indigenous, it has established itself in a most extraordinary way. For almost the whole length of the street the stones in the paved gutter were covered with this little Mint.—H. M. W.

Koiphofia nobilis.—Truly a noble plant, and if only the true form exists under the name, the spikes from established plants will tower away to 7 feet, and even 8 feet and 9 feet high. It is in this way one of the grandest plants for distant effect in the garden, and if judiciously employed where shrubs of a sombre hue are massed, an excellent result will ensue. Carefully utilised in this way there is a wide scope for such telling subjects as this in any good sized garden. In any case it is a splendid subject for planting in isolated groups on the grass, and if at some little distance from the house, the effect when in flower is a brilliant one.

Lavender.—As a market flower for sale in bunches when in full bloom few things are more reliable, as the demand seems always equal, if not in excess of the supply. Fortunately, it grows freely in our light dry soil, and old bushes continue to yield good crops for many years, but when they get old and straggling, they are easily converted into young dwarf bushes again, as even good-sized branches cut off and planted deeply in the soil root freely, and soon form profitable beds again. In private gardens a few good-sized bushes are decidedly ornamental, and the flowers cut and dried when in bloom are always acceptable.—J. G., Gosport.

JULY IN SOUTH DEVON.

THE dry weather of the past month has had a wonderful effect in forwarding and ripening vegetation both in field and garden. Towards the end of July the wheat fields showed a golden tinge, and the Oats were already cut or were in process of being harvested, the reaping-machine, with its revolving rakes and vibrating rattle, taking the place of manual labour in all but the most primitive country districts. At this season of the year the Meadowsweets fill the air with fragrance from where they grow by lane-side and reedy water-course, or stand in battalions among the rough herbage that fringes the neglected orchard, from the boughs of whose patriarch Apple tree the green woodpecker, with undulating flight and scarlet crest aglow, seeks a more secluded retreat in the neighbouring copse, giving vent the while to a peal of strident bird-laughter, the fabled precursor of the rain that refuses to materialise. On the cliffs, earlier in the year bright with the Sea Pinks, there is a purpler glow where the Heather has spread its opulent colouring among the grey-ness of the rocks. From here as evening falls one can here the shrill screaming of the swifts as they sweep with incredible velocity round the buildings of an adjacent village, ere, soaring in circles, they ascend till lost to sight in the clear air. But the music of the spring-tide is past; the cuckoo is no longer vocal; the dawn-chorus is silent; summer has stilled the voices that but lately trilled so tirelessly, and, until another spring arrives, hedgerow and spinney will not again resound with the singing of the birds.

In the garden the *Acanthus* has reared above its noble leafage stately bloom-spikes 6 feet and more in height, *Achillea ptarmica* fl.-pl. The Pearl is white with a wealth of rosette-shaped blossoms, while *Acena microphylla* has disclosed its rosy-spined flower-globes over level spaces of the rock garden and in borders where, on account of its lowly growth, it is used as an edging or carpeting plant. In sheltered gardens the African Lilies (*Agapanthus umbellatus*), both blue and white varieties, have borne their handsome umbels, which remain ornamental for some weeks. In gardens where the soil is heavy and damp this plant is rarely a success, as it appears to require a more thorough ripening than is possible in such a situation in order to induce flower-production, while in dry and sunny positions it rarely fails to blossom satisfactorily. The hybrid *Alstroemerias* have been especially attractive, and no one who has not seen the effect produced by

clumps a yard or so in breadth and twice as much in length, in which the varied colours of these beautiful flowers, ranging from rose-crimson to cream, are blended in harmonious association, can form an idea of the decorative value of this section of the *Alstroemeria* family, two or three plants dotted about the border being totally inadequate to produce the striking effect of which they are capable when massed in quantity. They are easily raised from seed sown as soon as ripe, and in the south-west are perfectly hardy, even when planted at as shallow a depth as 3 inches, though it is generally held that their roots should be covered by at least 6 inches or 8 inches of soil. The handsome orange *A. aurantiaca*, which, associated with the metallic-blue *Eryngium Oliverianum* in floral arrangements, presents a charming colour-contrast, has also been in fine bloom, as has *A. psittacina*, while the white *A. pelegriana* alba has also flowered in South Devon. The first white blossoms of *Anemone japonica* alba Honore Jobert are already reminding us that the autumnal days are not far distant, and the Pearly Everlasting (*Antennaria margaritacea*) has produced its white flower-clusters. The blue of *Anchusa italica* was at its brightest during the early days of the month, and the *Anthericum*s have afforded many a slender bloom-spike. Of the St. Bruno's Lilies, the larger variety is a great improvement in the size of its white flowers upon the type, but the latter is very graceful and has a pleasing effect when arranged loosely in flower-vases, while St. Bernard's Lily (*A. Liliago*) bears branched stems of white flowers, which attain a height of 2 feet and are unassumingly attractive. The white Snapdragon (*Antirrhinum*), raised from cuttings of a strain of particular purity of colour, is effective in masses, some old plants being bushes of flower 2 feet high and half as much again in diameter. The Aquilegias, though past the zenith of their beauty, were still pleasing at the commencement of the month, and the Sea Pinks or Thrifts (*Armeria*) had not then terminated their flowering season. *Astrantia maxima* has borne its Scabious-like blossoms throughout July, and in many a garden the Arums in the proximity of water opened their white spathes in numbers. The Arundos have become objects of decorative beauty as the month has progressed, *A. conspicua* sending up its long silver-plumed shafts, whose slender stems curve gracefully outwards, furnishing an example of delicacy of form such as the Pampas Grass (*Gynerium*) with its more rigid stalks cannot provide. In *A. donax*, as well, beauty of form, though of a different character, is expressed, and from the tall straight shafts the long blue-green leaves flutter like lance pennons in the breeze. Very effective is this Arundo when standing out among lower-growing subjects against a dark background, and grace of form is also provided by the Bamboos, whose foliage has suffered but little during the past mild winter.

In sheltered gardens *Babianas* have been blooming, and the tuberous *Begonias* are, week by week, increasing the mantle of brilliant colour that crowns their quickly-spreading leafage. The tall blossom-spikes of the Plume Poppy (*Bocconia cordata*), ivory-white and pale brown, rise on high above the deeply-cut glaucous leaves that adorn the lofty stems, their silvery reverses gleaming as the wind fitfully stirs them. Of *Campanulas* many have been in bloom, including *C. caespitosa* and *C. carpathica* with their white forms, *C. turbinata* and its form known as *C. pelviformis*, which bears wide-spreading lavender flowers, *C. Van Houttei*, *C. garganica*, *C. cenisia*, *C. G. F. Wilson*, *C. Raineri*, *C. punctata*, *C. Waldsteiniana* and many more of the rock garden *Campanulas*; while of the stronger-growing varieties, *C. grandis* and its white form were still in flower during the earlier part of the month, as were the Peach-leaved Bell-flower (*C. persicifolia*), its white and double white forms, as well as its large-flowered variety, while *C. latifolia* produced its pendent blooms of white and purple on its vigorous flower-shoots, and towards the end of July the Chimney Cam-

panula (*C. pyramidalis*) began to perfect its tall column of blossom, while the Canterbury Bells (*C. Medium*), where the earlier flowers had been removed as soon as faded, afforded a second crop of showy bloom. *Callirhoe involucrata* and *C. Papaver* have produced their attractive flowers, while the new race of large-flowered Cannas has commenced a brilliant display in many gardens, and the first rose-lake flower-cluster on the handsome noble-leaved *Canna Ehmanni iridiflora* expanded its drooping blossoms before the end of the month.

Carnations have been very charming in some soils and situations, the self colours being undoubtedly the most satisfactory for effect in the garden. *Celsia cretica* has borne its yellow flowers, and of the *Centaureas*, *C. babylonica*, *C. macrocephala* and *C. montana* have bloomed in the wild garden, while in the border the blue Cornflower (*C. cyanus*) and the Sweet Sultan (*C. moschata*) have formed breadths of blue, white and yellow. *Chelone barbata*, with its tall slender flower-stems strung with orange-red drooping blossoms, has been exceedingly decorative, and *Chrysanthemum maximum grandiflorum*, with larger blossoms and dwarfier foliage than the type, on which it is a great improvement, has been a mass of bloom. The slender white flower racemes of *Cimicifuga racemosa* hang swaying in the breeze. *Clematis Davidiana* has produced its flowers, and *Cosmos bipinnatus* has commenced to expand its single blossoms above its delicate foliage. The white form of the plant is by far the most decorative, and its flowers arrange charmingly with their own leafage. The blue *Convolvulus mauritanicus* and flesh-pink *C. Cneorum* have also been in bloom, and *Coreopsis grandiflora* is still golden with blossom. *Crinum capense* has thrown up its tall umbels of large light pink flowers, while the little *Cypella Herberti* has opened a few of its apricot-coloured blossoms, whose form indicates the plant's connection with the *Tigridia* family. Early in the month the tall *Delphiniums* presented a striking appearance, especially the varieties possessing Cambridge-blue flowers, which when backed by evergreens stand out in delightful contrast to their surroundings. Large clumps, consisting of half a hundred or more bloom-spikes, some of them 7 feet or 8 feet in height, are among the most effective plants that can be used for the back of herbaceous borders. The Cactus Dahlias have already come into bloom, but have not as yet given more than a hint of the display that they will afford in the succeeding months. *Gloriosa* and *Starfish* are two good scarlets, while *Cycle*, lake-coloured; *Lady Penzance*, yellow; *Matchless*, maroon; and the exquisitely tinted *Delicata* have perfected many a bright blossom. The bright crimson *Dianthus Napoleon III.* makes a spot of vivid colour in rockery and border, and *Doronicum plantagineum excelsum* Harpur-Crewe has still a few golden stars to flaunt, while in the early days of July the Burning Bush or Dittany (*Dictamnus Fraxinella*) was clothed with purple and white densely-flowered bloom-spikes. *Echinops Ritro*, one of the best of the Globe Thistles, has perfected its spherical blossoms. The Rocky Mountain Willow Herb (*Epilobium obcordatum*) bore its rosy flowers, and in marshy spots the common Willow Herb (*Epilobium angustifolium*) has been bright with blossom, a space of some three acres beneath a wooded cliff being a sheet of rose colour visible from afar. *Erigeron speciosus* has afforded quantities of its lavender, golden-centred stars, and *E. mucronatus* is flowering profusely in all situations.

In the wild garden the white Foxgloves have created a delightful picture, their tall spires of bloom rising above the lower-growing vegetation, and standing out in high relief against a background of Portugal Laurel and other evergreens. The Plantain Lilies have supplemented their handsome foliage by spikes of bell-shaped, pendent blossoms, while great bushes of *Fuchsia Riccartoni* are crimson with countless blossoms. The *Gaillardias* are bright with their red and

gold, and the Goat's Rues (*Galega officinalis*), both the mauve type and its white variety, have been covered with their Pea-like blossoms. For indoor decoration each colour is equally valuable, the white forming a charming arrangement when used alone, while the mauve associates pleasingly with light yellow, such as is provided by the Paris Daisies. The Cape Hyacinth (*Galtonia candicans*) commenced to expand the ivory bells that hang from the tall flower-spike with the closing days of the month, a particularly pleasing effect being obtained where these are seen rising out of an undergrowth of the bright blue *Salvia patens*. The Partridge Berry (*Gaultheria procumbens*) in rock gardens is thickly studded with drooping white blossoms, while *Gaura Lindheimeri*, 4 feet in height, has its slender flower-shoots set with rosy-white bloom. The *Gazanias* make a breadth of glowing orange in the morning sunlight, and the scarlet spikes of *Gladiolus brechenleyensis* form spots of vivid colour. Of the *Gentians*, a few infrequent blossoms are still to be found on *G. acaulis*, and *G. asclepiadea*, *G. cruciata* and *G. septemfida* are flowering. *Geranium lancastriense* and *G. striatum* have been in bloom, as has *G. sanguineum*, while the latter's white variety was in flower at Coombe-fishacre. The scarlet of *Geum coccineum* is still present in the garden, but the flower-lace of *Gypsophila paniculata*, less matured than in former seasons, had scarcely reached its most attractive stage by the concluding days of the month. The annual Sunflowers lift their wide brown discs in company with the stately spires of the Hollyhocks from many a cottage garden plot, and the earliest of the perennial Sunflowers have unfolded their golden blossoms. Old plants of *Heliotrope* that in sheltered spots have passed through the winter unharmed are odorous with blossom. *Helenium pumilum* is yellow with flower, while of the Day Lilies, *Hemerocallis fulva*, *H. Kwanso*, and its handsome variegated variety, as well as the new large-flowered *H. aurantiaca major*, have been in bloom, and *Hydrangeas*, both of the paniculata and *Hortensia* species, are daily enlarging their miniature blossoms. The common St. John's Wort (*Hypericum calycinum*) has covered a steep bank of poor soil with its golden flowers, and *H. Moserianum* is in good bloom, growing into a large bush in some seaside gardens in the south-west. *Indigofera floribunda* has borne its pink flower-racemes in sheltered situations where, early in July, *Ixias* and *Sparaxis* were to be seen in flower. *Inula glandulosa* has produced its narrow-rayed orange stars, and the coarse-growing *I. Helenium* has a good effect in corners of the garden where its vigour will not interfere with less robust subjects. *Iris orientalis* has thrown up tall spikes of white and yellow blossoms, but *I. aurea* and *I. Monnieri* did not extend their blooming period into July. The sweetly-scented *Jaborosa integrifolia* was in flower early in the month, and the *Kniphofias* perfected their brilliant spear-heads of bloom, the sulphur-coloured *K. Lachesis* bearing flowers of a charming tint. The Everlasting Pea (*Lathyrus latifolius*) is a favourite with the cottager, and makes a pretty picture rambling through a fence or up a trellis, the white variety being also valuable for providing cut flowers. *Lavatera trimestris*, white, pink, and red, is also in great request for indoor decoration, lasting in water for a considerable period if the flower-sprays are cut before the blossoms are fully expanded. In the garden these flowers are very ornamental, growing to a height of 3 feet and bearing a great number of large flowers, which render the plants objects of beauty for some weeks.

Of Lilies, *L. candidum* has been generally satisfactory in the neighbourhood this season, few cases of the disease having come under my notice. *L. excelsum* (or *testaceum*) has been exceptionally fine, as has *L. Humboldtii*. *L. Martagon* and the attractive *L. Martagon album* have also bloomed well, as has the old Orange Lily (*L. croceum*), this having attained a height of 7 feet in rich soil, where it has been undisturbed for some years. The Swamp Lilies, *L. canadense*, *L. par-*

dalinum, and *L. superbum*, have bloomed, though the Panther Lilies have not thrown up such vigorous stems or produced as numerous blossoms as they did last year. *L. auratum* has done well in some gardens, bulbs that have been undisturbed for two years having furnished flower-stems over 6 feet in height, while I have seen several specimens of *L. Hansoni* in flower. In the rock garden *Linaria repens alba* has been blossoming, the light blue *Linum narbonense* and the golden *L. flavum* and *L. arboreum* have been in flower, and *Lindelofia spectabilis* has produced its purple flower-clusters, while the vivid scarlet *Lychnis chalcedonica*, *L. Haageana*, and the double white *L. vespertina* have also been in bloom. The early green-leaved variety of *Lobelia cardinalis* has produced its vermilion flower-spike, and by the waterside the *Loosestrife* (*Lythrum*) has been bright with colour. The Musk Mallow (*Malva moschata*) has been white with faintly-scented blossoms, and the Fennel-leaved *Matricaria inodora* fl.-pl. has commenced to bloom, while the Night-scented Stock (*Matthiola bicornis*) and the Mignonette, two sweetly-perfumed flowers, have dowered the garden with their odours. On hot banks of light soil near the sea the *Mesembryanthemums* have made a brilliancy, and along the edges of the streamlet the *Mimulus* has spread a line of crimson and gold, while in the gardens where old-fashioned flowers find favour the Bergamot (*Monarda didyma*) has perfected its deep red flower-heads. The scented Tobacco plant (*Nicotiana affinis*), although not particularly attractive during the daytime, wakes to beauty and sweetness with the coming of the twilight hours. From its feathery foliage the pale blue flowers of *Love-in-a-mist* (*Nigella*) look out. Many of the evening *Primroses* have been in bloom, among these being *Eranthis fruticosa*, (*E. Youngi*), *E. speciosa*, (*E. Lamarckiana*), (*E. macrocarpa*), (*E. marginata*), and (*E. pumila*), while *Oxalis floribunda rosea* still made a bright patch of colour in the sunshine during the early portion of the month. The Tufted Pansies provide the garden with an abundance of soft colours, which may be utilised with pleasing effect either in the level border or for draping rockery and wall with a mantle of delicate tints. Among the numerous varieties now in commerce it is difficult to discriminate, but the lavender-blue *Ariel* and Sweet Lavender, the violet and lavender Cottage Maid, the lilac-blue *Florizel*, the blue *Blue Gown*, the yellow *Bullion*, the cream-white *Sylvia* and *Countess of Hopetoun*, and the delicately shaded *Border Witch* are good in their respective hues. The Paris Daisies, yellow and white, have been very decorative, many of the old plants being bushes 5 feet and 6 feet in diameter. The Ivy-leaved *Pelargoniums*, from the same cause, that of having passed through the winter unscathed, are particularly effective at the present time, and the other day I saw in a sheltered village the front wall of a thatched cottage covered to a height of over 6 feet with *Mme. Crousse Pelargonium*, a mass of salmon-pink blossoms, a novel and beautiful sight. *Pentstemons* are also in bloom, as are the herbaceous *Phloxes*, and *Phygelis capensis* has produced its scarlet flower-racemes, while *Platycodon Mariessi* and *P. grandiflorum* have blossomed well, and *Jacob's Ladder* (*Polemonium*) and the dwarf pink *Polygonum capitatum* have been flowering. Among the Poppies, the Oriental, Iceland, Welsh, Opium and Shirley have been in evidence, while large plants of the apricot-buff *P. pilosum* have presented a delicate colour effect during the morning hours ere the fragile petals dropped beneath the influence of the midday sun, while the *Pyrethrums* have been bright with bloom. *Ranunculus acris* fl.-pl. produced its golden blossoms, while the Fair Maids of France (*R. aconitifolius* fl.-pl.) and the old double Rockets, the last one of the most sweetly perfumed of our garden flowers, have been in bloom, while the Californian Poppy (*Romneya Coulteri*) has flowered well in many gardens. Some of the blooms have exceeded 7 inches in diameter, and I lately saw a plant 10 feet in height, its shoots covered with expanded flowers and buds. The Roses were at

their best in the early days of July, when Teas and Hybrid Perpetuals yielded baskets full of blooms for the house, and the single white Macartney commenced its long-flowering season. Rudbeckia purpurea has been flowering, and R. Newmanni opened its first blooms before the close of the month. The Salpiglossis, with its hues of shot silk, that now brightens the border with its rich colouring, is an annual well worthy of cultivation, as is the scarlet Zinnia for the brilliancy of its colour. Scabiosa caucasica, S. lutea, Silene alpestris, Solidago virgaurea nana, Senecio pulcher, Sweet Sultan, and Sweet William, as well as Sweet Peas, delightful in their faint colour gradations, have brightened the garden with their blossoms, while on the rockery Scutellaria alpina and Sedum album have flowered.

Of the herbaceous Spiræas, S. Aruncus, S. japonica, S. palmata, S. venusta, S. filipendula, and S. gigantea have been in bloom. The Tigridias have provided a most gorgeous display, the scarlet, yellow, rose-coloured, white with spotted centre, and pure white being grown together. In the wild garden Telekia speciosa has bloomed, as did Thalictrum aquilegifolium early in the month, while Tradescantia virginica, Trollius, and Tunica Saxifraga are also July bloomers, as is Veronica Lyalli, and Verbascum phoeniceum was in flower during its early days, while towards its close the Yuccas were throwing up their creamy flower-spikes. Where the presence of water admits of the culture of Nymphaeas many of the beautiful newer varieties have starred the pool with blossoms, white, flesh-coloured, yellow, and rose. In a garden that I visited towards the end of the month I noticed a fine plant of the Killarney Fern, apparently in the best of health, growing in a thoughtfully-constructed cave, through which trickling water, entering at the roof, found its way down the sides and out through a channel in the base. In Mr. Archer-Hind's garden at Coombefishacre I saw in bloom Brodiaea californica alba and B. laxa, Codonopsis ovata, with pretty French grey, bell-shaped flowers, but possessing a most unpleasant smell when plucked; Desmodium penduliflorum, Hypericum olympicum, Malva lateritia and M. Munroana, Modiola geranioides, the white Ostrowskia magnifica, Prunella grandiflora, the double white and double pink Brambles, Rosa macrantha, R. moschata nivea, and the R. moschata known as nepalensis. Gerbera Jamesoni had bloomed, as had Incarvillea Delavayi.

Amongst flowering climbers the Clematis family has provided some of the most attractive examples, Lucie Lemoine, Miss Bateman, Gloire de St. Julien, and Fairy Queen, with its pink band, being fine light-coloured varieties, while the rich purple of C. Jackmani is unrivalled among the darker tints. Cobæa scandens, which was not injured during the winter, was in fine flower, as were Honeysuckle and the scented Jasmine, while the yellow-flowered J. revolutum was also in bloom. The scarlet and yellow Mina lobata in some cases survived the winter, as did large plants of Tropæolum Lobbianum, when they provided an early display of brilliance. Another climber that profited by the mildness of the winter was Solanum jasminoides, whose expanse early in the month was smothered in white flower-clusters. The Passion Flowers and Physianthus albens were also blossoming, as were Tropæolum speciosum and T. canariense. Of shrubs and trees Abutilon vexillarium was in full flower, and the common Barberr yellow with blossom. The Strawberry tree (Benthamia fragifera) early in July was a cloud of pale yellow. Ceanothus, Cistus and Cytisus were in flower, as were the double Deutzia and Desfontainea spinosa. Fabiana imbricata, Kalmias and Myrtles blossomed. Olearia Haasti commenced its abundant flowering, and in a sheltered spot an Oleander expanded its rose-pink blooms. Ozothamnus thyrsoideus was thickly covered to the end of each spray with minute white flowers, and the New Zealand Flax (Phormium tenax) was in many cases throwing up its tall flower-stems. The Smoke Bush (Rhus Cotinus) commenced to perfect its feathery in-

florescence, and of the shrubby Spiræas, S. arifolia, S. Bumalda Anthony Waterer, S. flagelliformis, and S. Lindleyana were in bloom, as were the Weigelas, and the standard Magnolia grandiflora on some days showed as many as a dozen ivory-white chalcies open at one time.

S. W. F.

KITCHEN GARDEN.

BET AND CARROT SOWING.

THE folly of sowing garden Beet too early is likely to be shown again this year, for growth has been rapid, and already I have seen breadths of roots big enough to pass as fair samples of Mangolds, but useless for salads or for cooking. Not only are such roots too big to be placed whole into any ordinary cooking utensil, but the quality also becomes impaired when the roots are so overgrown. Of course seasons vary, and coarse roots do not always follow early sowing, but it happens so now and then and too often to make early sowings reliable. It is far better practice to sow early a few rows for early use and to confine the main crop to a later sowing made in May. Turnip-rooted Beets are in favour in some places, but not here, and I have to bridge the season with the long-rooted varieties. To this end I find it necessary to make three sowings, but the first simply consists of two or three rows; the other two sowings are divided equally, and it frequently happens that the last is the best, roots from this keeping admirably in a cool store until the earliest next year are quite fit. Turning to Carrots, it is pleasing to find that the old-fashioned one-crop system, with its plethora of big and maggot-eaten roots, is dying or being driven out of use. Like early Beets, early Carrots are a necessity, but very little room need be devoted to them, as far better results are had from successional sowings, and an especial argument for the practice is that the bulk of the necessary roots may be grown on ground that has already carried a crop. Where quality and tenderness are requisite, big Carrots are not to be compared to small ones, and this makes it possible to sow in succession right up to the end of July, and even later, with a certainty of getting a satisfactory crop. The last sown may be left in the ground all winter and drawn from as required, as they will develop no core to speak of even if left growing till quite late in spring. For most purposes short Carrots are the best, and some favoured varieties of these should be the only ones sown for late work. Ground cleared of Potatoes or any early crop may be forked over, drilled and sown without any delay, as there will be no bother in digging in manure for Carrots. They do much better without it.

J. C. TALLACK.

Tomato Hathaway's Excelsior.—In these days there are so many so-called new Tomatoes, all claiming to be the best, that one hardly expects to see such an old favourite as this grown. I used to grow this kind largely, and I was pleased to see it again doing well in a low lean-to house at Dillington Park, near Ilminster. It was at the end of June when I saw it, and at that time the plants were 7 feet or 8 feet high and literally covered with bright even-sized fruit. They were growing in Seakale pots in loam and old mortar rubbish.—DORSET.

Tomato Carter's Outdoor.—To those who are dependent on outdoor-grown Tomatoes for the bulk of their crop I can strongly recommend Carter's Outdoor, as being the earliest to ripen out of many now being tested. One or two small-fruited varieties are equally early, but these scarcely form a fair test, and would not be suit-

able for growing in bulk. The one in question is a heavy cropper and the fruits are above medium size, but not so big as some of the selected forms of the Perfection type, such as Duke of York. Its worst fault is that the fruits are very much corrugated, but this may be forgiven, as the quality is excellent, and the season advanced by at least a couple of weeks by its use, a great gain when we consider how short the outdoor Tomato season really is.—J. C. T.

Notes on early Potatoes.—The hot, dry weather of the past week has had a very visible effect on the haulm of the early varieties of Potatoes, which has turned quite yellow, and now lies flat on the ridges and is dying off quickly. The tubers are also ripening fast, but so long as the weather continues dry they are quite safe. Should rain, however, fall in sufficient quantity to moisten the soil before they are ripe, lifting will have to be done at once, otherwise second growth will result. The crop is a good one, the tubers being clean and quite large enough for all ordinary purposes, and the quality is also good. As has already been mentioned in these columns, Famous has given extremely satisfactory results this season. English Beauty has also again exhibited its superiority as a very early kind and has produced an excellent crop. Sharpe's Victor, Myatt's, and Hammersmith are too well known to need comment, while Mona's Pride and Colis's Favourite are excellent. Among the round varieties Early Regent and Boston Quantity and Quality will soon be fit for lifting, the crops of both being good. Main crop and late kinds look well, but need rain. Field crops are not looking quite so satisfactory as one is in the habit of seeing them at this time of the year; in fact, I saw some a fortnight ago in several localities in a very backward state. These were a long time starting into growth in many instances, and are now no doubt at a standstill from want of rain.—A. W.

GARDEN FLORA.

PLATE 1185.

ROSE MAMAN COCHET.

(WITH A COLOURED PLATE.*)

It is said that Maman Cochet was raised from Catherine Mermet, but many rosarians have rather doubted it. Certainly it has no resemblance in growth to the fine old favourite, neither is it so good for forcing, for its flowers are what florists term too heavy. In the garden on a low wall it is excellent. True it has some faults; for instance, the bad quality of quartered blossoms is one of them. This, however, does not very frequently occur. There is also at times a certain dulness of colour manifest, and the centres of the blossoms are often irregular, as in Jules Finger, but apart from these faults it is a truly splendid Rose. I know of no Tea Rose that has such immense outer petals. These are usually suffused with a lively rose colour, a beautiful contrast to the pink and salmon-yellow of the remainder of the blossom. The form is also very distinct, the centre tapering to quite a sharp point. Already this Rose has many times secured the medal for the best Tea in the show—no mean achievement for a variety only five years of age. Maman Cochet is truly an amateur's Rose, having none of those tricks of sudden weakness too often displayed by some varieties frequently exhibited. It is a free grower, almost as strong as Homère, but with stouter wood. It is very beautiful when grown under glass, but a moderate amount of heat suits it best.

A white sport from Maman Cochet has already

* Drawn for THE GARDEN by A. F. Hayward. Lithographed and printed by J. L. Goffart.



appeared. It resembles The Bride in its lemon whiteness, and there is the same blush-pink shading which is so much admired in this lovely Rose, but the grand petals and form of its parent remain. It is strange that this sport should hail from the United States, the birth-place of The Bride, Bridesmaid, Sunset and The Queen. I have often thought that the immense numbers propagated chiefly from cuttings, and also the strong heat employed in their cultivation, have no small influence in accelerating this freak of Nature.

PHILOMEL.

THE WEEK'S WORK.

OUTDOOR FRUIT.

STRAWBERRIES IN POTS.—After making all due allowance for the lateness of the season in obtaining strong runners so as to finish up the potting, which also was in my own case correspondingly late, the plants are now making up for loss of time. Before this appears in print I hope to have them re-set in their proper quarters for the rest of the season. So far, owing to the hot, parching weather, with an almost complete immunity from showers, and oftentimes a searching east wind, they have been stood pot to pot along the garden walks where a little protection was afforded them. Stood thus the watering could be attended to with more dispatch and with less liability to over-water, whilst damping overhead as the sun left them could be performed quite easily. So far the watering has all been done with a rose upon the water-can, and it will still be continued, at any rate for a few weeks to come. The earliest potted are sending forth their first runners, which in every case should be picked off daily as the watering is being looked to. A word of warning, perhaps, may be appropriate, even with the hot weather, not to over-water the plants, for if this occurs it will frequently check the growth. Although soot was used in the crocking of the pots, a still further precaution will be taken of guarding against the ingress of slugs by applying a good dressing of lime to the ash bed upon which they will stand; salt even will do no harm if it is at hand, as I do not want the Strawberries to root through. In arranging the plants allow as much room as possible, at least 6 inches between each pot and a pathway, by leaving out every seventh row of plants if placed in wide beds, so as to allow space enough for convenient attention. Select for this purpose the most open and exposed position possible without any regard now as to extra labour in watering arising from this cause. The primary object should be a close, sturdy growth, which of itself will be conducive to an early completion of growth. Do not yet be induced to apply any liquid or artificial manures to encourage growth; far better do without these altogether than use them yet or frequently. I have already noted that there is a slight appearance of mildew upon Royal Sovereign. This will have to receive immediate attention by a slight application of sulphur by the sulphur puff, which is better than the older sulphur dredge, as it enables one more easily to reach the under sides of the leaves. The new perpetual-bearing Strawberry St. Joseph is maintaining its character with me. The old stools which were planted out only this spring showed flowers as early as any variety, and the few fruits that were allowed to mature proved of capital flavour, of medium size, and globular in shape. As early runners were the first consideration, I was prompted to sacrifice the first crop. The second crop is now swelling, and in later stages down to spikes just making an appearance. The early runners layered into 2-inch and then potted into $4\frac{1}{2}$ -inch pots are now well established. The forwardest of these are now swelling their first fruits, and in nearly every instance spikes are showing, whilst in some cases secondary ones are appearing. The plants possess a capital constitution, being sturdy and close

in growth. So far everything points to its being an acquisition to the Strawberry connoisseur. It should have been added also that the flavour is good. My stock of plants is so far outside, standing upon a hard bottom and well exposed. In my case there is no occasion to hurry them, as I have an abundance of Royal Sovereign to last well through September. This variety has this season beaten Vicomtesse H. de Thury in its autumn-fruiting properties. The latter has, however, a fairly good crop, that of the former being really a heavy one of finely coloured, large fruits. Louis Gauthier, although an older variety than St. Joseph (but one not sufficiently well known yet to impart confidence to the majority of growers), has the same property of autumn fruiting, but in this case it proceeds from the runners only; whereas in St. Joseph the old crowns produce an autumn crop as well as the runners. In a recent examination of the runners of Louis Gauthier I noted many of them as producing flower-spikes. These runners will be layered, two into a $4\frac{1}{2}$ -inch pot, before this number is in circulation, and every encouragement be given to them to quickly establish themselves. In other seasons they have shown in a similar way, but were not layered into pots, so that it is no chance occurrence at all. As a late mid-season variety in the open it is a heavy cropper of good sub-acid flavour.

ALPINE STRAWBERRIES, as represented by Rouge Amelore, Belle de Meaux, and Large White, are all bearing profusely now, affording daily pickings for breakfast of delicious, highly-flavoured fruits. These alpine Strawberries are better flavoured from the beginning of August onwards than they are earlier in the season. The young stock of alpine raised this spring is growing very freely under the treatment already given, the only apprehension being that of their growing so fast as to need another removal before finally planting them in their fruiting beds, for which purpose fully a thousand are needed. Daily attention to watering is given to these, even at the cost of planting them afresh, as any check by drought is a great source of weakness afterwards. A late stock of alpine is being brought on in pots for the last picking of all. These are now well established in 3-inch pots, being fit for transferring into $4\frac{1}{2}$ -inch pots for fruiting at any time. From the time of potting they have been grown in a cold frame on the north side of a vinery, somewhat after the same method of treatment as that accorded to the herbaceous Calceolarias. When potted, the soil will consist of at least one-third leaf-soil, the rest being loam, road grit, and a little finely-sifted manure from an old Mushroom bed. When potted, the flower-spikes, of which many are now showing, will be picked off, then afterwards all will be allowed to remain, but the plants will then onwards be stood in a more open spot. This is the first experiment with the alpine Strawberry in pots, the object being that of prolonging the season by ripening them under glass. The results will be recorded later on.

OUTSIDE PLANTATIONS.—The weather so far has not been favourable to the planting, much more to the establishing of new outside plantations this season. Without the aid of a good supply of water, the plants so far will not have made much progress. This points very forcibly to the exclusive use of pot plants for garden planting, even if needed by the thousand. The after results will compensate for the labour of layering into pots. When planting, see that prior to it the ground is well broken up and freely manured, too, if occasion occur. If it be a hard and retentive soil, a second forking over may be necessary before planting. This must, however, depend upon each given case. Select a warm, open border for the first early kinds. For some at least a border sloping towards the south will be a good choice. Later kinds and crops had better be on the flat for fear of drought. Those on sloping borders should at once be slightly mulched. The latest of all the Strawberries should, where practicable, be grown under the shade of a north wall, or at any rate be partially shaded. Note as the latest

kinds: Waterloo, well suited for moist places and wet weather; Latest of All, for dry, gravelly soil and a dry time; Oxonian, a reliable variety on the whole for either purpose, but not always the best as regards quality; and that old, but still excellent late Strawberry Elton Pine, which does well even under the shade of trees. Of early kinds the merits of Royal Sovereign are well known, but from a reliable source I have heard that Leader is even earlier. If so, it will prove an acquisition. A trial should at any rate be given it. For mid-season to late, Ganton Park and Lord Suffield are excellent varieties. British Queen of course should be included where it is found to thrive, giving it a cool border if possible. In planting take pains to make the plants quite firm. Upon light soils it will be found advisable to tread the ground first and then again after planting, using even then the handle of the trowel to make the soil firm if need be. As regards distance apart, all must depend upon the soil and the variety. In some soils 2 feet between the rows and the same between the plants is sufficient for all but the most robust growers, as Royal Sovereign; whereas in other cases that are conducive to strong growth, another 6 inches or even 1 foot more between the rows will not be any too much. Such medium growers as Latest of All will bear planting triangularly, a plan I have adopted for years in special cases with good results (*i.e.*, three plants to each stool instead of one). Waterloo is another instance of this kind of planting—at least, upon this soil. Watering after planting will pay well, even if it be done by extra labour. Do not, however, unless pushed, use the ground between the Strawberry rows for vegetable crops. In trying new kinds be cautious at first. Try any by all means that are considered of sufficient promise, but do not plant them to such an extent as to supplant others the first season which are known to be depended on from past experience.

HORTUS.

KITCHEN GARDEN.

SPRING LETTUCE.—In the southern parts of the country it is well to sow Lettuce late in August—indeed, September will be none too late for plants to stand the winter. The spring Lettuce is an important crop. In many gardens it is needed in quantity, and no matter how carefully plants are treated when sown in heat, they fail to turn in so soon as those sown in the autumn. Living in the vicinity of large market gardens, I have been surprised to see large breadths of Lettuces early in the spring when there has not been a plant in private gardens. Many can obtain useful hints if they study the means adopted. Many think it is mostly owing to glass that large growers obtain reliable supplies. Glass at certain seasons of the year plays an important part, but not now, and this is the time to make the start, as delay means a weakly plant not able to hold its own in a severe winter. In the north I always sowed the third week in August for keeping through the winter. Many sow on a warm south border. I do not advise doing so, but would recommend the market garden mode of culture—an open quarter, raised beds in heavy land, and sowing sufficiently thin to give each plant room to develop. There is no need to be too niggardly with the room; far better give a bed or beds double the size than cramp the seedlings. In my opinion this is the secret of success, as a well-developed plant may lose a few lower leaves, but the centres are sound, whereas in crowded beds a large portion of the plants is lost by damping after a severe frost. I sow in the open on a border running north and south, and in very severe weather place some boards round the beds and pieces of laths over resting on the edge of the boards, and over these mats and long litter or bracken. I am alive to the necessity of a sheltered border for plants put out in the autumn. Here a south or south-west border will be the best position. The soil for the Lettuce beds will need a little preparation, as the plants have numerous enemies to contend with. I find

burnt refuse with a sprinkling of lime or soot one of the best fertilisers, and in land infested with wireworm I have been obliged to use a small quantity of fine gas-lime before digging. The land if in fairly good order will not need heavy dressings of manure; indeed, I do not advise any, as the seedlings need to be grown as hardy as possible. Manure means a soft leafage, readily injured by frost. In heavy land the soil may be improved by the addition of old mortar rubble, road-scrappings, or anything that will lighten it. A firm bed is necessary to success. If the soil is at all light I roll and tread it before sowing, and by so doing get a slower, but firmer growth. As regards varieties, there are not many suitable for present sowing. Of the Cabbage section, such kinds as Brown Dutch, Lee's Hardy Green, a very fine and reliable variety, and Stanstead Park are good. Daniels' Continuity is a grand summer Lettuce that stood the wet and frost two years ago better than any other kind. Cabbage Lettuces are the most serviceable, as they stand frost well and turn in earlier than the Cos varieties, which are valuable for a succession. One of the best is the Bath or Brown Sugarloaf, very hardy and of good quality. Intermediate Cos is also an excellent variety. This grows close to the soil, and is remarkably hardy, as is the larger Giant Winter Cos.

OTHER SALADS.—Endive sown for early autumn supplies will need generous treatment at this date, as though we have had a little rain, the hot weather experienced since has so dried up the soil, that it will cause a scarcity of good salads unless moisture be given freely. Endive recently sown should be given water freely at sunset, and as the season is now nearly past for sowing, it may be desirable to assist germination by covering the seed beds with mats. Should there be any doubt as to the plants being deficient, another sowing should be made at once, and the bed covered as advised till the plants are through the soil. The Round-leaved Batavian is the best for present sowing. Earlier sowings should be well thinned and watered freely. I mulch between the rows in hot, dry weather. This retains the moisture which is so essential to get good salads. Corn Salad should not be overlooked where salads are needed in quantity. A good sowing now will provide a winter supply. It is quite hardy, and well repays good soil. This may now be sown in rows 1 foot apart, the plants being thinned to half that distance in the row and given ample supplies of moisture. Chicory sown in May will well repay good supplies of liquid manure, as unless moisture is given freely it runs to seed at times. The new Christmas Salad Chicory is a grand addition to this class of plants, as, though not unlike the Witloof in shape, it is of a more delicate flavour. From now to October there is no dearth of good salads, and the autumn and winter supply is apt to be overlooked. Now is a good time to sow autumn Radishes. If sown as soon as we get a good supply of rain these will soon bulb and form crisp roots. Mustard and Cress sown under a north wall will furnish the salad bowl for some time if sown every ten days. Watercress may be had in quantity if grown in a shady place and kept well supplied with water. For years I grew the Erfurt variety under a Medlar tree, sowing regularly in spring. Good results may also be obtained by dividing the roots from May to October.

CUCUMBERS.—I have just planted the early August sown plants. These will supply fruit from October to January. By having fruiting plants at the time named one can spare the winter fruiters, as I have found it is useless to crop the autumn ones hard and expect a full winter crop. Plants are best raised this month for winter cropping, and a great deal depends on their culture. I grow as hard as possible for the next two months, so that, given liberal treatment later, the plants soon give good results. The seed is sown in a frame, sturdy plants are secured, and a low night temperature is maintained, with very little, indeed no heat in the middle of the day other than sun heat. If planting out is adopted,

it will soon be necessary to make up the beds. I rely upon pot culture, as thus there is a dwarf growth. My best winter Cucumbers are Telegraph, Syon House and Perfection.

TOMATOES.—Plants that have been fruiting freely through the summer will now be getting past their best, and if my note advising a July sowing for a late autumn supply was followed, it may now be advisable to clear out the plants. If the new stock be planted out it will be well to give fresh soil, and only a limited quantity is required, less now than earlier in the season, as root-growth is best restricted. For autumn supplies, a sturdy growth should be obtained from the start, giving ample ventilation, and at night a free current of air should be allowed. With plants a fair size I have left off the sashes at night in hot weather from August to the end of September, and the plants delight in the cool night temperature, growing very strong and setting fruit at every joint. When set it is an easy matter to perfect the fruit by giving more warmth in the autumn and a liberal quantity of food to plants bearing freely. If any old fruiting plants are showing a good crop on the new wood, these will well repay food to swell up the crop. A goodly portion of the old foliage may be cut away to admit light and sun. In dull weather the moisture and food must be given less sparingly.

WINTER TOMATOES.—These, if sown for fruiting as early in the year as possible, should now be potted up and grown as hardy as possible. I sow in cold frames and pot up in the middle of August. Excellent results may be obtained by sowing now, as a fair sized plant may be secured by November. After that date the growth made will be small, and it is not advisable to excite the plants unduly during the midwinter months. If the plants fill a 6-inch pot by the end of October they will winter well on a shelf in a temperature of 50° at night and 5° to 10° higher by day, according to the weather. Up to the time of placing on the shelves I expose the seedlings as much as possible. At night the sashes on the frames are removed, and at the second shift the plants are not given any heat. Plants raised thus are far more profitable than seedlings raised in November or December, and bear far better than cuttings struck in the early autumn. When the plants are potted early in the year they show fruit and mature it, whereas seedlings sown much later are only a few inches high and not strong enough to bear fruit till May. S. M.

FRUIT AND VEGETABLE CROPS.

SOUTHERN.

Dropmore, Bucks.—The Apple crop in this district is considerably below the average, for although trees of some varieties are bearing good crops, others are remarkably thin, and in some instances quite barren. The blossoming was all that could be desired, unless it may be looked upon as too heavy or profuse, and this with the prevailing dryness, accompanied with cold winds, so weakened the trees that they could not perfect a crop of fruit. In many instances where they apparently set well the embryo fruits dropped when swelling should have commenced. Among the few standard trees carrying a crop it is chiefly found to be on those that were fruitless, or nearly so, last year. Dwarf bush trees are rather better cropped, the best being those of Lord Grosvenor, Grenadier, Lord Derby, Worcester Pearmain, Ecklinville Seedling, Bismarck, Stone's Apple, Lane's Prince Albert, Winter Hawthornden, Cox's Orange Pippin, and Ribston. Bramley's Seedling, which has hitherto been a very poor cropper, is also carrying a fair crop this year. Pears are almost a failure, the only variety good alike on walls and bush trees being Williams' Bon Chrétien. This has cropped well in all positions. Bush trees of Souvenir du Congrès, Louise Bonne of Jersey, Durondeau, Beurré d'Anjou, and Beurré d'Amanlis are the only ones

among many that have any crop worthy of mention. Wall trees, excepting the one variety mentioned, are also a failure. Peaches and Nectarines on walls are in all cases, both on south and west aspects, all that could be wished; indeed, very much thinning of the fruits has been necessary. The early varieties are now over, including Waterloo, Early Alexander, and Amsden June; Condor, just now ripe, and other varieties swelling satisfactorily. The trees are healthy and making good growth, although in early stages green-fly was troublesome. The trees have needed heavy applications of water at the roots. I gathered the first dish of Waterloo Peach on July 19 this season, a week later than usual. Plums on walls are well cropped, but standards in the open are generally fruitless. Cherries, including Morellos, in all cases have been good. Bush fruits of all kinds have been plentiful and good, although Black Currants were rather subject to blight, and Raspberries did not last long owing to the drought. Strawberries were very good and abundant, and Nuts of all kinds promise well.—CHAS. HERRIN.

Hackwood Park, Basingstoke.—The promise of a good fruit crop early in the season has hardly been fulfilled. Apples in this district are much under average and very small; a few varieties have good crops. Lord Grosvenor, Lord Suffield, Warner's King, The Queen, New Hawthornden, King Pippin, and Cox's Orange are the best. Apricots are fair in places, while in others they are a total failure. Pears are much under average; the following sorts have about half a crop: Beurré Diel, Beurré Clairgeau, Winter Nelis, D. du Comice, Easter Beurré, and Glou Morceau. Peaches and Nectarines are a full crop and have had to be thinned severely. Plums are a good average; the never-failing Rivers' Prolific and The Czar have very heavy crops. The best of the others are Victoria, Monarch, Archduke, Prince Englebert, The Sultan, and Transparent Gage. Sweet Cherries are fairly good, but Morellos, which generally do well with me, are almost a failure. Gooseberries, Raspberries, and Currants have all been good. Strawberries are a full crop, especially Royal Sovereign, a variety everyone ought to grow, as it seems adapted for all kinds of soil. Filberts are very plentiful.—J. BOWERMAN.

Yattendon Court, Newbury.—I should consider this a good average year. Of Apples I have a good general crop. Wellington is perhaps the worst crop. I sprayed the Apple, Pear and Plum trees twice with Bordeaux mixture and Paris green, and I consider the spraying in every way effectual. Pears are a thin crop; Plums very good; Currants and Gooseberries good. Strawberries are also good. Raspberries were a good crop, but affected by the drought. Apples on standards in the orchards and cottage gardens are a variable crop; in some cases abundant, in others a failure.

Vegetables are as a rule good. Potatoes are very good and free from disease. Green vegetables have been plentiful, but Peas and French Beans are now getting scarce from want of rain. The rainfall here for the months of July and August up to date (August 11) is just 1 inch.—R. MAHER.

Cassiobury, Watford.—Apples, Pears, Plums, and Cherries are under average; Apricots and Strawberries a good average. There was a fine show of blossom on Apples, Pears, and Plums, but owing to the cold nights all through May and June the trees failed to set a crop.

Vegetable crops in general are well up to the average.—CHAS. DEANE.

Addington, Surrey.—Generally speaking, crops of all kinds are fairly good. Bush fruits, such as Gooseberries, Currants, and Raspberries, are plentiful and of excellent quality. Strawberries are a heavy crop and fine; Plums good; Apples moderate and Pears a poor crop.

Cauliflowers from the autumn sowing I never saw better. The seed was sown on the 24th of August, a portion of the seedlings was potted, and part pricked out into cold frames. The

weather being open and plants strong, they were planted out on the 20th of January, and began to turn in by the middle of May. Early Potatoes, Ashleaf and Sharp's Victor, have turned out good crops of fine healthy tubers. Late kinds so far look promising. We have been very short of rain up till to-day (August 6), but have had a good soaking, about 1½ inches. The drought told more upon the Pea crop than any other. — JOHN MATHISON.

Wentworth Gardens, Virginia Water. —I think that on the whole the fruit crop falls somewhat below the average. Apples appear to be over average and good, but have suffered from want of rain to swell them. Pears are a very light crop; Plums under average; Cherries, Morello, under average. There was a good set of fruit, but it fell during the stoning period. Peaches and Nectarines are under average; Apricots a failure. Bush fruit has been good, but Strawberries and Raspberries are only fairly good.

The vegetable crop, considering the nature of the soil and the continual drought, are looking remarkably well. Asparagus has been good and plentiful. Beans, except dwarfs, are good; Cabbages and Cauliflowers very fine. Carrots are poor, being badly attacked with wireworm. Onions are very good. Early Potatoes are good, late kinds suffering from want of rain. Tomatoes look promising. — W. MARCHAM.

Gaddesden Place, Hemel Hempstead. —Strawberries have been a very heavy crop; Raspberries good; Red and Black Currants a good average crop; Plums very thin, almost a failure on north walls; fair crop on south walls. Peaches, Nectarines, and Apricots are good; Cherries, dessert and Morellos, good; Pears poor. Apples are below the average, very much infested with American blight.

Vegetables in general have done well, although they have suffered somewhat from want of rain. Potatoes are not quite so large, but of good quality and very clean. I am afraid the late ones will make a fresh growth should we get a lot of wet now, as they are showing signs of ripening. All the green crops are promising. — HENRY FOLKES.

Barham Court, Maidstone. —The Apple and Pear crops are a very good average; in fact, Pears are better than usual. I find Plums generally a very good even crop. Peaches (outdoors) are very good, but will be very late in ripening. Red and Black Currants are poor; Gooseberries very plentiful. My Strawberry crop has been exceedingly good, but the earliest fruits were injured by a hailstorm which passed over this locality at the time the main blooms were opening. I am here referring to La Grosse Sucrée and Royal Sovereign. I also found Royal Sovereign much damaged by wet. The main crops of Strawberries, Sir J. Paxton, Sir C. Napier, and Waterloo, have been exceedingly useful to me this season. Damsons are fairly good. — HERBERT MORRIS.

Tingrith Manor, Woburn. —Strawberries were good both in quality and quantity. Raspberries are over average and of good quality. Apricots are plentiful and of good quality. Peaches are an average crop, Royal George and Princess of Wales being full crops, while some others are thin, the severe weather when they were in bloom doubtless being responsible. Apples are an average crop and now swelling very fast, Lane's Prince Albert, Peasgood's Non-such, Red Astrachan, and Mr. Gladstone being the best. Pears are good. Doyenné du Comice, Louise Bonne of Jersey, Williams' Bon Chrétien, and Jargonelle are loaded. Cherries are an average crop. Red, white, and black Currants are very heavy crops, as also are Gooseberries. Plums are under average, and aphids has been very troublesome. Nuts are under average. — J. HAMMOND.

Luton Hoo, Beds. —In this district Pears and Cherries are slightly under average. Apples, Plums, Peaches, and Nuts are about the average, whilst Apricots are under. Small fruits, such as

Currants, Gooseberries, and Strawberries are a good crop; indeed, I have never had finer Strawberries than this year. Royal Sovereign, Leader, President, and Latest of All are the best of the varieties grown, and ripen in the order named. Monarch appears to be a good useful Strawberry for fine fruits, but the general yield is not so heavy as from the above-mentioned sorts.

Vegetables have been quite up to standard. All are later than in previous years. Turnips have been the most trying crop to grow, which is accounted for from the dryness of the season. Blight has been prevalent. Apples and Plums are the trees most affected, some of the trees being almost denuded of leaves. — GEO. H. MAY-COOK.

The Gardens, Wrest Park, Amptill. —The fruit crops in the gardens here this season are on the whole very satisfactory, also in the neighbourhood of Amptill and Silsoe. The cold nights during May and early part of June were not quite so favourable for the fruit crops as might have been desired, and retarded the growth of fruit and vegetables at least from ten to twelve days.

Vegetables have done very well, but some varieties have suffered more or less from the attack of mildew, owing no doubt to the backward state of the weather during May and June. — GEORGE MACKINLAY.

Theobald's Park, Herts. —Apples are very thin, excepting a few trees of Sandringham, Alfriston and Dumelow's Seedling, which are well loaded. Pears are a very good crop, especially on walls. The varieties doing best are Williams' Bon Chrétien, Beurré Superfin, Gregoire Bordillon, Marie Louise, Pitmaston Duchess, Louise Bonne of Jersey, Olivier de Serres, Glou Morceau, Beurré Rance, and Easter Beurré. Plums are an average crop, excepting Green Gages, which are poor. Cherries are an average crop, including early and late varieties. Peaches are very good, the varieties doing best being Alexander, Barrington, Early Beatrix, Early Silver, Grosse Mignonne, Hale's Early and Walburton Admirable. Nectarines, including Elruge, Early Rivers, Hardwicke Seedling, Humboldt and Lord Napier, are good. Of Apricots there is a very poor crop. Strawberries have been excellent, especially Royal Sovereign. Raspberries and other small fruits are an average crop.

All vegetable crops are looking exceedingly well here this season, especially Peas, Beans, Onions, Beetroot, Cauliflowers, and winter greens in variety. — F. W. GALLOW.

Cambridge House, Twickenham. —Fruit and vegetable crops have been very satisfactory, but have suffered from the drought. Cooking Apples, such as Lord Suffield, Warner's King, Ecklinville, Lane's Prince Albert, Cellini, New Hawthornden, Keswick and Manks Collins, Bismarck, &c., are bearing very heavy crops. Dessert kinds are rather thin, excepting King of Pippins; Apricots above the average and large. Of Pears, Williams', Marie Louise, Jargonelle, Beurré Diel, Beurré Sterckmans, and Louise Bonne of Jersey have very good crops. Of Plums, Green Gage, Orleans, Czar, Jefferson's, Golden Drop, and Victoria are very heavy. Strawberries are very good, but did not last long on account of the dry season. Bush fruits are abundant, excepting Raspberries, which were small. — J. E. BURTON.

Old Warden Park, Biggleswade. —In the early part of the season the prospect of fruit was very encouraging. I never recollect seeing so much bloom on all kinds of fruit trees. Apples are a good average crop; the fruit is very clean, the trees very healthy and making good growth, but the fruit is backward and consequently rather small. Pears generally are a very thin crop, but the trees are clean and healthy and making good growth and the fruit very clean. Plums are very scarce, but the trees generally are free from insects and making good growth. Cherries are a good average crop, but a good deal infested with black fly. Peaches and Nectarines on unprotected walls are clean and healthy, but very

late; crop under average. Apricots are a very thin crop. In the early part of the season the trees were very much infested with a small green grub, but they are now making clean and healthy growth. Small fruits, Gooseberries, Currants, and Raspberries are exceptionally good and plentiful; Strawberries very good and plentiful; over average. I find Laxton's Royal Sovereign one of the best and earliest varieties grown. Latest of All I find a good substitute for British Queen on light sandy soil. — G. R. ALLIS.

EASTERN.

Livermere Park. —Taken as a whole, the fruit crop generally is a very fair one this year, and there are no complete failures. At the same time the early promise of heavy crops all round has not been entirely fulfilled. The exceptionally dull days and cold nights have kept the crops backward, and the rather severe frosts we had for a few nights at the end of April and beginning of May did much damage to tender blossoms. Apples are again above the average, most of the trees being heavily laden with clean fruits. The weevils and grubs generally have not been so much in evidence as last year. Growth on the trees has been till now very slow, and for a time looked very pinched, but the trees are now righting themselves again, and heavy rains, which have prevailed during the past few days, will do them much good, especially if we now get warmer weather. A few varieties are not very satisfactory this year. These include Scarlet Nonpareil, Wyken Pippin, Golden Harvey, Quarrenden, and Keswick Codlin, but such useful varieties as Blenheim Orange, Wellington, Ribston Pippin, Cox's Orange Pippin (for once in a way), King of Tomkins County, Livermere Favourite, Nortolk Beaufin, Cox's Pomona, Bramley's Seedling, Crim-son Queening, and many others are heavily laden. Pears are a poor crop all round. A few of the best are *Conseiller de la Cour*, Marie Louise (very good), Brown Beurré, Knight's Monarch, Beurré Hardy, Williams' Bon Chrétien, Jargonelle, and Duchesse d'Angoulême. The trees suffered much from the biting winds which prevailed soon after they started into growth. Peaches and Nectarines are about the worst outside crop we have. Apricots, on the contrary, are excellent—quite the best crop the trees have borne for eleven years to my knowledge. The fruits now want sun to ripen them. Cherries, sweet and Morello, are under average, but the fruits are good. Plums are almost a failure in the open, but a heavy crop on walls; the blossom in the open was caught by frost and killed, only a few late flowers on the under sides escaping. Strawberries, after showing well, did not come up to expectation; many blossoms failed to set owing to the dull, cold, and wet weather which prevailed just after the flowers opened and which prevented all aid to setting from insect life. Except in the case of Leader, which was very fine and good, old favourites such as President and Latest of All turned out best. Royal Sovereign rotted badly on the plants, both in two-year-old beds and on the south borders as yearlings. Raspberries have been a fine crop, and so, too, have Currants, red, white, and black. Gooseberries suffered from frost while in blossom, but managed to carry a slightly under average crop and the fruits are extra fine this year. Outdoor Figs, generally a precarious crop, are this year very good indeed. There is no hope for the Grapes outside, as the Vines were only just in blossom quite at the end of July. Damsons are a good crop in places where the frost missed them, but this only happened in rare cases. Medlars and Quinces are average crops; Walnuts and Filberts much under average. Tomatoes are very backward, but are carrying plenty of fruit, which only wants sunshine to ripen it. American Blackberries, such as Wilson Junior and Kittatinny, promise heavy crops.

Vegetable crops are mostly good. Potatoes are turning out well, but disease is becoming very prevalent in the haulm, though not much as yet in the tubers. Lifting is being pushed forward with second earlies, as some of these are the worst

affected as yet. Snowdrop was lifted before it took any harm, but Windsor Castle, one of my best Potatoes, has gone down sadly during the recent rains. Of late main crops the least affected is a Potato for which I venture to predict a great future, viz., Syon House Prolific. Last year this was my best late, and I expect it to turn out equally well this year. Celery is fine, though I see much of the maggot in surrounding gardens. Onions are very good, not quite so large as usual, but very sound and firm. Kales generally are looking well, and very little troubled so far by caterpillars. Asparagus was a good crop, though late in appearing; the growth made promises well for next year's crop, and is extra good on young and thinly-planted beds. — J. C. TALLACK.

Ampton, Bury St. Edmunds.—Small fruits are above the average. Strawberries were very fine and of good flavour. Raspberries are an enormous crop. Gooseberries and Currants, although the bushes are laden with fruit, are of fine quality. Plums are a failure, except on walls with a southern aspect; Damsons an average crop. Pears are scarce, though some trees on south walls are carrying a fair crop. Morello Cherries are plentiful. Some May Duke Cherries on a north wall have borne a good crop of fine fruit. Apricots protected with nets until out of danger of spring frosts are an average crop. Figs outside on south wall, having been protected with Bracken in winter, are an average crop.

All vegetable crops are looking well. Potatoes especially are a very heavy crop. I have found a few early tubers diseased. Late Potatoes are free from disease at present. Tomatoes are very late, and I fear will not ripen well. — J. CHILCOTT.

Scawby Hall, Lincoln.—The fruit crops in this neighbourhood are somewhat variable and late in ripening. Strawberries have been a poor crop here, while in other places they have been good. Red, Black and White Currants, Gooseberries and Raspberries are heavy crops. Pears and Plums are light; Apples medium; Apricots light; Cherries medium.

Vegetables have not done well owing to the meagre rainfall. Peas have done well where they have been sown in trenches, but where sown upon the level have suffered from drought. Runner Beans have grown well, but have not set their flowers. Beet, Carrots, Salsify, Parsnips and Onions are small. Early Potatoes are a light crop. Late Potatoes have greatly benefited by recent rains, and have not shown any signs of disease at present. — E. SEMPER.

Uppington House, Stamford.—Strawberries, Raspberries, Gooseberries, Cherries and Currants have been good and of fine quality, but Pears are very poor. Apples are very light crops. Vegetables are very good on the whole. — W. BARKHAM.

Babraham, Cambridge.—Apples here are an average crop, and some kinds very good; amongst the best being Prince Albert, Lord Suffield, Lord Grosvenor, Grenadier, Peasgood's, Mother, Wealthy, Bismarck, Newton Wonder, Hoary Morning, Baumann's Red Reinette, Golden Noble, Ecklinville, King of Pippins, Tower of Glamis, Warner's King, Golden Spire, Beauty of Bath, Lady Sudeley, and Mr. Gladstone. Many other varieties have a fair amount of good fruit. Blight has been more prevalent than usual, especially amongst Plums, which are very scarce. Out of numerous varieties grown none are worth mention for a crop except Victoria, Early Prolific, and Orleans. On the walls, Early and Late Transparent, Golden Drop, Jefferson's, Reine Claude de Bavay, Washington, and Monarch are carrying good crops. Pears are very thin; Cherries pretty good; Apricots a good crop, also Peaches and Nectarines. Waterloo and Alexander Peaches were ripe in the middle of July. Strawberries have been a good crop. Some of the earliest blooms got spoilt by frost, gathering being a fortnight later than usual, Royal Sovereign being the best. For late use Oxonian has been good. All kinds of Currants have been plentiful and good; Raspberries and

Gooseberries good. Nuts and Quinces are an average crop. The trees looked well when in blossom, but we had some late frosts and very cold winds at the time, and a lot of damage was done to Plums and Pears. The rainfall has been very meagre during the past few years. Our light soil stands much in need of rain to ensure a fruit crop for another year. — J. HILL.

ROSE GARDEN.

ROSA WICHURIANA HYBRIDS.

THE two new hybrid Roses illustrated were raised by Mr. W. A. Manda, of South Orange,

Jersey which have proved very useful, not only as trailers and climbers, but as Roses for forcing for Easter. They were called Pink Roamer, South Orange Perfection and Manda's Triumph. The present set is the result of crosses with Teas and Hybrid Teas such as Perle des Jardins, Meteor and others. To my mind the peer of them all in most respects is the one named Gardenia, the result of crossing R. Wichuriana with Perle des Jardins. The long well-shaped buds are bright yellow on the under side, and when expanded the flowers are white, giving the flower the aspect of Gardenia Fortunei—hence the name. Jersey Beauty (R. Wichuriana × Perle des



Rose Evergreen Gem (R. Wichuriana × Mme. Hoste). From a photograph sent by Mr. James MacPherson, Trenton, New Jersey, U.S.A.

New Jersey, U.S.A. The complaint was at one time common that scarcely a hardy climbing Rose was available for the Northern States other than Feast's Gem of the Prairies. Now there are several. Two years ago Mr. Manda sent out an initial set of hardy hybrids of

Jardins) is a single flower, with heavy masses of golden anthers and lucid evergreen foliage. Evergreen Gem (R. Wichuriana × Madame Hoste) is a double white flower and a dense, rapid grower. A cross with Meteor has a large flat, double flower of the La France shade of

pink. It is unnamed as yet, but, like all of these *Wichuriana* crosses, is a vigorous grower, and just the subject for planters who desire to cover walls and fences, or without training to cover bare ground along railway cuttings and embankments or anywhere. Like the species, all these hybrids are quite hardy.

JAMES MACPHERSON.

Trenton, N.J., U.S.A.

CLIMBING ROSES IN BUSH FORM.

BECAUSE some Roses are extra vigorous in growth they are catalogued under the heading of climbers, and the uninitiated naturally suppose that a wall or fence is essential for them. But let anyone try them as bushes and he will be pleased with the result. I do not say they should be mingled with the true dwarf-growing Roses, for nothing appears so incongruous as a rampant Rose on the outside of a bed or border and a weak, puny grower in the centre. What I do advise is that these climbers and semi-climbers be grouped together in good bold beds, keeping the extra vigorous kinds in the background. Of course such plants require plenty of space. I do not consider 4 feet apart each way any too much for their proper development. The first season the plants will look somewhat strange, for they are generally supplied from the nursery with shoots ranging from 3 feet to 5 feet in length, and these are in most cases of a very rigid nature. However, the second season all formality disappears as the grand shoots break up from the base of the plants. At pruning time these climbers should be cut down to about 18 inches to 24 inches from the ground, and it will be found that a great number of the new growths will bear flowers at their points. In my opinion these climbers form ideal bushes with their long wavy branches swaying about with their crown of blossom, and in course of time many of the older growths will be induced to produce blossom almost the entire length of the shoot. An important fact to remember is that we have some of the best yellow Roses among these climbers. Of course if one could obtain a *Mme. Hoste* with the colour of *Maréchal Niel*, a superb acquisition would be gained. But until we obtain such an one, we must perforce go to the climbers and semi-climbers for this very valuable colour. All stiffness should be banished from the Rose garden, and this may be best accomplished by employing the less rigid-growing kinds. As standards these climbers make excellent heads, strong, bushy, and spreading. It is surely far better to see a well-developed head of a standard *Gloire de Dijon*, *Mme. Berard*, or *Reine Marie Henriette* than a puny stumpy one of a *Baroness Rothschild* or an *Etienne Levet*. In mentioning a few of the extra vigorous kinds that give good results if treated as described, one must place first the ever-popular *Gloire de Dijon*. Other excellent kinds of the same race are *Mme. Berard*, *Belle Lyonnaise*, *Bouquet d'Or*, *Kaiserin Friedrich*, together with *Duchesse d'Auerstadt*, *Mme. Moreau*, *Germaine de Mareste*, *Henriette de Beauveau*, *Mme. B. Levet*, *La Soleil*, *Joseph Bernacchi*, *William Allen Richardson*, *Celine Forestier*, *Pink Rover*, *Souv. de Mme. Joseph Metral*, *Waltham Climber No. 1*, and *Marie Robert*. The semi-climbing kinds are best represented by *Gustave Regis*, *Mme. Pierre Cochet*, *l'Idéal*, *Mme. Eugène Verdier*, *Mme. Chauvry*, *Mme. Jules Siegfried*, *Dr. Rouges*, *Germaine Trochon*, *Mme. Marie Lavallée*, *M. Desir*, *Rosette de la Legion d'Honneur*, *Alister Stella Gray*, and *Mme. Wagram*. Other Roses of other classes suitable for the same mode of

culture are *Robusta*, *Climbing Capt. Christy*, *Gloire de Margottin*, *Bardou Job*, *Gloire des Rosomanes*, *Mrs. Paul*, and *Climbing Souv. de la Malmaison*. P.

ORCHARD AND FRUIT GARDEN.

THE COLOURING OF GRAPES.

VINES with their roots in a suitable medium will produce healthy growth and good-sized bunches and berries annually, but the finishing of these will be considerably influenced by its temperature. It has more than once been observed that the earlier Grapes did not, under certain circumstances, finish so well as did the later lots, and that shanking was also more prevalent among them. Of course this was most noticeable when the Vine roots were in an outside, or had the run of an outside and inside border. The winter's cold and moisture from melted snow would so lower the temperature of the soil surrounding the Vine roots that growth was more likely to be marred than encouraged under this condition. During the first six months of the year the sun's influence cannot penetrate to the depth the roots go, and water is rarely artificially applied to outside borders, consequently there is no effort made to improve the adverse conditions. Twenty years ago this seems to have been better understood than it is at present, for many gardeners then covered their outside Vine borders in autumn with beds of leaves and long litter to the depth of 4 feet to husband the solar heat. Others, instead of using such a huge mass of fermenting materials, would only employ a covering of something like a foot of it, and on this place wooden shutters to prevent cold rains and the snow water getting into the soil. In those days, too, gardeners were very particular about the temperature of the water they supplied to their Vine borders; in fact, some were so much so that it had to be brought up to a certain degree of warmth before a drop was allowed to be used. Under this kind of treatment we invariably had our black Grapes really black, and shanking was almost unknown among them. As time advanced, and money for the garden began to diminish, staffs were reduced, and, in consequence, these aids to successful Grape culture were discarded, or rather neglected. Vines, then, with their roots in outside borders, some of these being scarcely raised above the level of the adjoining ground, and left entirely to the attention of Nature, began to exhibit inability in finishing their crops. Some Vines which were grown under these unfavourable conditions had not a single well-coloured berry in the lot, and shanking was bad amongst them. These were early Vines. Those ripening in August did much better.

By noting these facts and many others connected with the growth of the Vine, I was led to conclude that Vines could be considerably influenced by the use of warm water at their roots. In a house of Grapes just colouring I watered the half of the border with water at a temperature of 90°, and the other half from the ordinary water supply. The Grapes over that portion of the border which had been treated to a dose of warm water finished as if by magic, with not a single shanked berry. Those growing on Vines affected by the water obtained from the ordinary supply (and which stood at 52°) took a considerably longer time to mature, but never got black, and shanking was very bad among them. With this proof of the efficacy of water at a high temperature for not only aiding Grapes to finish well, but also as a

means of reducing shanking to a minimum if not entirely overcoming it, I would strongly advise everyone to give it a trial. Although I have only mentioned using hot water for finishing Grapes, I think it ought to be employed from the time the Vines are started into growth till they have finished their crops. The most important times to soak the borders with warm water are when the house is shut up for forcing, just before the Vines are in flower, and when the berries commence colouring. If the borders are well drained—which they ought to be for Vines—more frequent applications of water will be necessary to maintain them in a favourable condition for the growth of the Vine roots, and, except in the dormant season, water at a high temperature will be found most conducive to the health of the Vine, the heaviness of its yield, and the perfecting of its crop.

J. RIDDELL.

PREPARING FOR PLANTING.

AFTER the small fruit is mostly over and Strawberry layers potted there comes a little lull in the work among hardy fruits, and if time can be spared to prepare stations for fruit trees to be planted during the autumn, it relieves the press of work later. Not only this, but as soon as the trees arrive they can at once be unpacked, the roots put in order, moistened, and planted without any delay. This early preparation of the stations is especially necessary where trees are to be planted on the grass in heavy, unkind soil. In a great many cases the gardener has to make the best of positions that are quite unsuitable for the trees, and, without questioning the economy or wisdom of owners in allotting such places to fruit growing, must do the best with whatever means are at command to at least give the trees a start in fair soil. During the whole of the year all waste soil from the potting-bench, edge cuttings, and other material are best thrown into a heap and turned occasionally, this making useful stuff to remedy the class of soil referred to. Here I always keep a heap or two going ready for whatever planting or mulching is going on, and it is extremely useful. The soil here is very heavy and close, and is taken out 18 inches deep by about 4 feet wide. First, the bottoms of the holes are well broken up with a pickaxe, the turf is placed on this, and a wheelbarrowful of the soil mentioned above is mixed with the rest of that taken from the holes. This addition allows of the soil being very firmly rammed—the work is, of course, done in fine weather—sufficient being left to slope up well in the middle of the hole, preventing undue gathering of water should the early autumn prove wet. To take out holes and fill them with loose soil without ramming or rounding off the surface is very wrong, as the holes get wet, and planting, instead of being forwarded, is in a wet season delayed. In the case of light, easily-worked soil the work is, of course, very much easier, and the best plan, if the holes are to be got ready previously, is to take the soil out, lay the turf back in the hole, and leave the rest of the soil ready by the side of the hole for planting when the trees arrive. Additions to this class of soil will consist of any loam that is to spare and a few barrowloads of clay that has been weathered by a good baking through the summer. The refuse from brick-kilns where brick-making is carried on on the estate is a very useful addition to all soils, while of course the oft-recommended burnt garden rubbish is of the greatest benefit, especially to Apples. I have seen in many places a fair thickness of spit manure placed in the bottom

of the station for fruit trees, but if I were dealing with the poorest soil imaginable, I should not use it. Far better let the trees be planted almost on the surface and keep up the fertility of the soil by frequently top-dressing with short manure.

Where the soil is naturally unfit for fruit culture, there is nothing gained by planting large trees, but rather the reverse. If maidens are planted—and these are cheaper of course than any other larger form of tree—the roots become used to the soil, as it were, but large trees with a lot of roots that have been growing in suitable quarters are never happy afterwards. Feeding from the surface, too, is much more easy in the case of these small trees, and any element that is missing in the soil, as lime, potash, or what not, can be easily and cheaply applied. August is a good month for preparing, where possible, borders for Peach, Nectarine or other fruit trees in the walled-in garden. Where pyramid and bush Apple and Pear trees are to be planted, the land may with advantage be got ready. Old kitchen gardens are often too rich in humus for fruit trees, and lime rubbish, burnt earth and a preparation of sound poor loam is the best addition here. The ground should be trenched, the bottom well broken, and the top spit flung up roughly in dry weather, mixing the material above-named with the top spit as far as possible. Plums, Cherries and stone fruits generally should not be planted in newly trenched ground if it can be avoided, and if the quarters can be cropped during the summer, the crop removed and the trees planted upon the firm soil, they will generally do better. The roots at first made are of the right sort for fruit production, but in loose soil Plums especially run away, and the makeshift remedy of root-pruning has to be commenced in about the second year after planting. All borders for the reception of bush fruits of kinds may also be got ready, and by these means a lot of time is saved, especially in a wet season. H. R.

Strawberry Royal Sovereign.—Mr. Hammond, one of our large Kentish fruit growers, gave Royal Sovereign as a market Strawberry the other day a remarkable testimonial. He said that it fruited before Sir J. Paxton and later, the latest produced fruits swelling up better than did those of any other market variety. That is high praise from such a quarter. It will be interesting to learn whether others have found a similar habit. Varieties suited for market command exceeding interest in Kent, where so many hundreds of acres are planted with Strawberries, and in that county hundreds of thousands of Royal Sovereign have been planted. Out in the open fields the tendency to produce long leaf-stalks is less evident than is the case in gardens. —A. D.

Nectarine Early Rivers.—This fine Nectarine is again in splendid condition in an unheated house. The first fruits were gathered the last week in July, but the finest and best are now (August 8) being gathered. The large fruits require longer to ripen after the colouring begins than some kinds, and it is not at its best until it parts from the tree very readily. For this reason I always place a net or some sweet hay under the trees, as, no matter how carefully large trees are gone over, there is always a risk of a few dropping, and if these have nothing to break the fall they are, of course, ruined. This variety is exceptionally vigorous, and, notwithstanding a crop that would be considered far too heavy for most varieties, the fruit is of excellent quality and flavour. It comes in at about the same time as Hale's Early Peach, and forms a good succession to Waterloo in the same house. Its capabilities as a forcing variety have been shown by the fine fruits exhibited earlier in the present season, while its splendid constitution renders it an

admirable outdoor kind, ripening before Lord Napier or any other first-class variety. The tendency to stone-splitting sometimes noticed in the fruit on young trees should disappear when they become well established.—H.

FRUIT FAILURES.

ALTHOUGH we are getting pretty well accustomed to the total or partial failure of our

this is aggravated by cutting easterly winds, as is usually the case during April and May, the blossom does not get frozen, but, what is equally as bad as far as setting a crop is concerned, the tiny fruits are really starved from want of sap to hold them on the tree, and drop to the ground by thousands. I feel confident that this was the cause of the collapse of our splendid show of blossom this year, for there was no



Rose Gardenia (*R. Wichuriana* × *Perle des Jardins*). From a photograph sent by Mr. J. MacPherson, Trenton, New Jersey, U.S.A. (See p. 166.)

fruit crops we do not seem at all unanimous as to the causes that lead to it. Late spring frosts have been blamed, and doubtless there is good reason for it in many cases, but I very much question if late spring frosts are half so destructive as a long protracted spell of cold, cheerless weather while the trees are in bloom, and if

frost of sufficient intensity to injure any kind of bloom. Early Potatoes growing in the same plots as my fruit trees were not cut in the slightest degree, and I notice this year the same thing has happened with my largest Pear trees, viz., the best fruits are right on the exposed tips of the topmost branches, where if

frost had been the cause of failure they would have caught far more of it than those in the centre or lower part of the tree. These to my idea received a more direct flow of sap, and consequently were able to hold on until more genial weather prevailed. I have several re-grafted Pears that were worked two years since with Pitmaston Duchess, and although this variety is one of the most complete failures of all on pyramids, bushes, espaliers, and wall trees, yet these recently re-grafted trees set nearly every bloom and have four and five large fruits in a bunch. I can only account for this by the fact that these grafts had the roots and stock of large gross-growing hardy Pears to feed them, and consequently were kept supplied with sap just when the others were starving. My fruit-tree grounds run full north and south, and if you pass down the east side you would say there would be no crop at all on the Pear trees; but if you return on the west side, you would find a fair average crop on several, which seems to me proof that it was cold winds more than actual frost that did the mischief. Of one thing I feel certain, and that is that as a rule we get far too much bloom, for the trees get exhausted with such a wealth of blossom and are unable to perfect any of it; consequently it all falls to the ground, while those trees that have only a mere sprinkling of bloom and hardly attract our attention during the flowering season manage to set these few, and in the autumn present a far more fruitful look than those that were like a nosegay all over. At all events I mean to thin the fruit-spurs a good deal more in future.

Gosport.

JAMES GROOM.

ROOT PRUNING OF FRUIT TREES.

Root pruning of fruit trees is what may be termed a necessary evil—necessary because either an unsuitable stock, a too severe shortening of the growths, or the destruction of surface roots will lead to the production of unfruitful wood. In some instances bush trees of strong growing varieties of Apples worked on the Crab stock are planted along the margins of walks to form a screen to the vegetable quarters, and at the same time to yield a supply of fruits. After a few years these trees attain the dimensions their allotted space will allow, and then severe annual pruning has to be resorted to to keep them within it. The more they are pruned the stronger the shoots become, as the balance between root and branch—the condition of a healthy fruitful tree—is gradually lost, and excessive crops of wood only are the reward. The cultivation of the ground, or rather the digging of it under the trees, results in the destruction of the surface and most valuable roots, compelling the plants to seek food in the under stratum. This stratum, or layer, is often of an unsuitable character, containing too much nitrogen in proportion to the soluble mineral matter, an excess of iron or compounds not at all favourable to the formation of fruitful growths. By a selection of trees on the Paradise stock, and merely pointing the soil under them to a depth of something like 2 inches during the winter months, the evil of strong succulent wood will, to a large extent, be avoided, and in favourable seasons good crops secured. Where these conditions have not obtained, and root pruning becomes a necessity in order to bring about a balance between the roots and branches, the operation is often delayed till late autumn or winter, or even till spring. When done at these times, the trees will get a check the following year and fruit the next. If, however,

the trees were root-pruned at the end of August, the desired conditions would be obtained, the plants thoroughly established the same autumn, and a crop of fruit might be expected the year after. A year is thus saved. When I say "root-pruning" I do not mean digging round the trees at a certain radius from the stem and ruthlessly chopping off all roots that come in the way. Rather I would work round the plants with a fork, preserving all fibrous roots, carefully cutting the strong ones with a sharp knife, also sawing off all those growing vertically under the plant. Operators should be careful not to overdo the pruning of the roots. In cutting, cut from the under-side of the root in a slanting direction towards the top. This will encourage the formation of young rootlets on the top side of the root when it is cut, and secure feeders of the best kind within the surface soil. Although I have only mentioned Apples in this note, these remarks are equally applicable to other fruit trees. Always secure trees on dwarfing stocks, when they are obtainable, for confined spaces, and rather crop the ground with bush fruits around them than utilise it for crops necessitating deep cultivation. There will then be less occasion for performing root-pruning.

J. RIDDELL.

BOOKS.

INSECTS, FOES AND FRIENDS.*

THIS little work is, as it is stated in the preface, a translation from the German. A glance at the plates before reading any of the letterpress revealed the fact that it was "made in Germany." It is difficult to understand why anyone should have taken the trouble to "translate and adapt," as the preface says, this little book, as it only contains 134 pages of letterpress, measuring 5½ inches by 3½ inches. It is impossible to deal properly with our "Insects, Foes and Friends" in so small a compass, and the impossible is not attempted, for the editor in his preface says: "It does not pretend to be anything like an exhaustive work on the subject, but a considerable number of the more interesting and typical pests of the farm and garden are figured and described." There are thirty-two chromo-lithographed plates; those of the larger insects are very fair, but those of many of the smaller ones are quite unrecognisable, the wireworm and its parent the striped click beetle for instance. In a book evidently intended for unscientific persons, where there is no glossary, such terms as pro-thorax, flocculent, permeate, pupa, larva, translucent, pulvilli, apterous, pubescence, &c., should not be used, as they convey no meaning to the ordinary gardener or farmer. Some of our most destructive pests are passed over with very scant notice—for instance, the grubs of the common daddy-longlegs are among the commonest and most destructive insects to many kinds of plants, but they are passed by with the statement that they "are very destructive, especially to the roots of corn and grass." No figure is given of them, and no remedies or preventive measures are mentioned. Wireworms are not much better treated. As a preventive it is said "that shallow drilling may be useful, as the young plants at this stage have such small roots that they are not likely to be injured by the drill." What operation is intended to be understood by the term drilling I do not understand. Again, the caterpillars of the winter moth are perhaps the most destructive pest to fruit trees in the spring. The only means suggested of combating this insect is that of "painting a ring of lime or tar round the trunk; sometimes this application is spread on straw or paper." There is no suggestion when this should be done, and I presume that the editor is unaware

* "Insects, Foes and Friends." By W. E. Kirby, M.D. Partridge and Co.

that the tar should never be painted on the bark, but always on paper, and that there are better substances than tar for the purpose, and that there are such remedies for killing the caterpillars in the spring as paraffin washes and Paris green. In fact, the remedies in most cases are quite out of date. So that the book is practically of little or no value to those who want to know how to protect their crops from their insect foes.

G. S. S.

SOCIETIES AND EXHIBITIONS.

NATIONAL CO-OPERATIVE FESTIVAL FLOWER SHOW.

CRYSTAL PALACE, AUGUST 19 AND 20.

No similar meeting probably brings together from so many different parts of the country persons interested in their gardens as does this annual gathering of co-operators. It may justly be said that the Agricultural and Horticultural Association in promoting this annual exhibition of garden produce are influenced by commercial considerations; but it can be placed to their credit that they have largely helped to create a multitude of amateur gardeners, who bring examples of their productions from many and widely separated districts. These amateur gardeners obtain their seeds from the London centre through the medium of provincial co-operative branches, and at a certain season of the year they bring their produce to London and exhibit it, allured in part by the offer of substantial prizes, but also, there can be no doubt, animated by a desire to take part in a great demonstration in the interests of co-partnership in trade, in the social observances which form a part of the gathering, and with a firm belief that the principle of co-operation is one of supreme interest in the working out of social and industrial ideals. But it is with the flower show rather than with the general co-operative movement that we have to do. That it increases in extent annually there is abundant evidence, the entries this year exceeding those of any previous show. There were 4321 entries, comprising over 5000 exhibits. The schedule of prizes included some 300 classes, and it is divided into three sections; nearly one half is confined to members and customers of the Agricultural and Horticultural Association or their gardeners and employes, and in the latter term are included some of the best gardeners of the day. Their exhibits consisted of vegetables, generally of fine quality, cut flowers, mainly annuals, but including some grown in greenhouses, plants in pots, with fruits and farm produce. The classes were generally well filled and the competition in many of them very keen. Side by side could be seen leading fruits grown under glass—Grapes, Melons, Peaches, Nectarines, &c.—and those from the open ground, early Apples and Pears, the homely and wholesome Gooseberry and Currant being largely represented. The owner of a spacious domain was in the same section with the village postman, and it was noticeable that the produce of the latter compared favourably with that from the gardens of the former. There were pretty floral decorations, also tables, epergnes, bouquets, &c., generally the handiwork of the women among the co-operators. As a rule they exhibited a considerable amount of taste in their construction.

On the second day the members of industrial co-operative societies and residents in the metropolitan district brought their produce to the extent of two-thirds of the exhibition. The spacious nave of the Crystal Palace was then well filled from end to end with lines of tables and also at the sides. The productions from the members of the industrial co-operative societies outnumbered those of the professional growers by four to one, and it must be admitted the general good quality was as high. In the matter of vegetables, Potatoes led the way in the number of entries, as in this section alone there were 239 dishes.

Beans, Broad and French, were largely represented, and so were Vegetable Marrows, Onions, Turnips, Peas, Beet, Shallots, Carrots, &c., following in the order of numbers. The most difficult task set the judges was the classes for Potatoes and Onions, as special varieties had to be identified, and some eliminated as contrary to schedule. In the classes for flowers, charming bouquets of annuals and biennials were staged. Annual Chrysanthemums were very good, so were Salpiglossis, Stocks, Carnations, Dahlias, including some excellent Cactus varieties; Sweet Peas, Mignonette, Indian Pinks, and Phlox Drummondii were all most attractive. The classes for bunches of annuals of one colour were full of interest. The leading yellow flowers were Eschscholtzia, Coreopsis, and Marigolds; red: Malope grandiflora, Phlox Drummondii, Linum grandiflorum rubrum, Sweet Peas, &c; blue: Cornflower, Sweet Peas, Whit-lavia gloxinoides, and Larkspur. The most effective bunches of annuals were those in which but one variety was placed. The mixing of varieties is often confusing rather than otherwise. Sweet Peas and the brilliant Salpiglossis were largely employed for this purpose.

There was evidence that the industrial co-operators can grow good fruit. They had fine cooking Apples, including Peasgood's Nonsuch, Lord Suffield, Warner's King, Emperor Alexander, and Hollandbury. Of dessert Apples there were Beauty of Bath, Gladstone, Juneating, and Quarrenden. The leading Pears were Jargonelle and Bon Chrétien, and there were excellent Morello Cherries.

There were prizes for photographs of flower and window gardens, of which there were 300 entries, and the Countess Grey offered a challenge cup and Earl Grey a shield, which added greatly to the interest of the proceedings. Mr. George Waugh as the director of the show carried out the arrangements in an excellent manner.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 23.

At this meeting the chief feature of the display was the large and varied collection of Gladioli staged by the Langport firm, and which included some excellent novelties, these being supplemented by several very fine banks of hardy flowers. A small collection of annuals was a noteworthy group, and included many subjects rarely so well represented. The Salpiglossis alone were of exceptional merit, and not only were the well-known blossoms seen in fine condition, but lovely self-coloured flowers in a variety of colours were much admired. A nice representative collection of the perennial Phloxes was a pleasing feature, and these embraced many well-known sorts, among them being many flowers of bright and striking colours. Of Bouvardias there was an excellent display for so early in the season. Most conspicuous was a splendid lot of Bouvardia Humboldtii corymbiflora, the collection numbering some twenty varieties. A fine example of the Japanese Wineberry occupied a prominent position at the meeting, and attracted much attention; so, too, did a very meritorious collection of Apples from Maidstone. Orchids were staged in very small numbers. Taken as a whole, the meeting was a good one for the season, only one side-table being omitted from the ordinary display.

Orchid Committee.

An award of merit was adjudged to—

DISA CLIO (D. Veitchi × D. grandiflora).—To illustrate the variability of this secondary hybrid four plants were shown, the upper sepal in some being delicate rose with rose veinings, while in others the salmon-red of D. grandiflora was more pronounced with the markings of reddish purple, the lower sepals also being equally variable and the colours similar. The size of the flowers has been considerably increased. The habit of growth is also stronger. It is of free habit, and, possessing a good constitution, should prove a valuable

and useful hybrid, flowering at this season when all Orchid flowers are scarce. From Messrs. J. Veitch and Sons.

A botanical certificate was given to—

ACINETA COLOSSEA, in which the sepals are creamy white, the petals similar in colour, slightly spotted with pale brown at the base, the large lip also creamy white, becoming suffused and spotted with purple at the base and through the centre. A cut raceme of ten flowers came from Mr. F. W. Moore, Botanic Gardens, Glasnevin.

Messrs. H. Low and Co., Bush Hill Park, Enfield, sent a small but choice group consisting of a fine form of *Sobralia xantholeuca*, well-flowered plants of *Cattleya bicolor* and *C. Harrisoni*. Among the hybrids was the distinct form of *Laelio-Cattleya elegans enfieldensis*, one of the L.-C. e. Turneri section, but with very pale sepals and petals, which were in striking contrast to the crimson-purple lip. L.-C. Aurora (L. pumila × *Cattleya Loddigesi*), with three of its delicate rose and purple flowers on a spike, *Lælia Amanda*, with two fine flowers, the sepals and petals nearly white, mottled and veined with rose, the ground colour of the lip creamy white, suffused and veined with bright rose-purple, and a grand plant of *Phalenopsis amabilis* were also shown. *Cypripediums* were well represented by fine forms of *C. Curtisi*, good varieties of *C. Charlesworthi*, and a fine plant and variety of *C. bellatulum album*. *C. Lawrenceanum* Hey-anum (Low's var.) has a very fine dorsal sepal, but the plant was too weak to develop its characteristics properly. Some fine forms of *Oncidium Lanceanum* were also included. Messrs. F. Sander and Co. sent a fine form of *Odontoglossum bictonense album* with three spikes of flower, a small plant of *Oncidium incurvum album*, *Cattleya velutina* with two spikes of flower, a grand form of *C. Gaskelliana*, and some distinct forms of *C. Leopoldi*. In *Bulbophyllum grandiflorum*, one of the most distinct and interesting of the large-flowered section, the broad upper sepal, upwards of 4 inches in length, has a pale greenish ground, suffused with brown and spotted with numerous large creamy white spots, the lower segments pale green, suffused and mottled with pale brown, the small lip pale green, suffused with dark brown. *Bulbophyllum barbigerrum* is a most attractive and interesting little Orchid. Messrs. J. Veitch and Sons, Ltd., sent *Masdevallia Circe* (Veitchiana × *Schroederae*), a pretty form, the yellow ground thickly covered with bright purple spots. In *Epidendrum radicante-Stamfordianum*, a hybrid raised from the species indicated in the name, the sepals and petals are rich yellow, suffused and spotted with orange-red, the lip more yellow than the other segments, spotted on the outer margin with orange-red. The habit of growth is very similar to that of *E. radicans*, the leaves if anything being more robust. *Cypripedium Rothschildianum villosum*, derived from the parentage indicated in the name, has the dorsal sepal greenish yellow, lined with rich reddish purple, the petals yellow suffused and lined with brown. The lip has a rose-purple tint in front shading to creamy white. Sir Harry Fairfax, Ravenswood, Melrose, sent a fine form of *Cattleya Hardyana* with two flowers and a cut spike of *Odontoglossum Harryanum* with eighteen flowers on the spike (cultural commendation). Sir T. Lawrence sent a finely-grown and well-flowered plant of *Platyclinis* (*Dendrochilum*) filiformis carrying over 100 spikes of its golden-yellow flowers, and *Saccolabium Hendersoni*, whose scarlet and white flowers are now rarely met with in Orchid collections. Mr. G. F. Moore, Bourton-on-the-Water, sent two distinct forms of *Cattleya Trianae*, flowering from imported plants. Mr. Walter Cobb, Dulcote, Tunbridge Wells, showed *Cattleya intermedio-flava*, differing from the variety exhibited at the Temple in its having pure white sepals and petals and a delicate rose-purple mottled lip. Mr. Moore sent a yellow ground form of *Cypripedium Godefroyæ leucochilum*, and Mr. N. C. Cookson showed one of the home-raised *Cattleya Hardyana*, which was an improvement on previous exhibits from this

batch of seedlings. Mr. T. Hogg, Woodside, Paisley, exhibited a small-flowered variety of *Cypripedium Lawrebel*.

Floral Committee.

The following received awards of merit:—

GLADIOLUS LEMOINEI MME. DESBORDS VALMORE.—This is a pretty salmon-pink, paler at the edges, with bright crimson markings on lower petals and deeper coloured veinings. From Messrs. Barr and Son, Covent Garden, and Messrs. R. Wallace and Co., Colchester.

HUNNEMANNIA FUMARIFOLIA.—This is a Californian annual about 2 feet to 3 feet high, succeeding well on warm soils, and very pretty. A coloured plate was given in THE GARDEN of June 11, 1887 (p. 536). The colour is rich citron-yellow, with orange-coloured stamens, and it has finely-cut silvery green foliage. From Messrs. J. Veitch and Sons, Ltd., Chelsea.

LATHYRUS GRANDIFLORUS ALBUS.—This has large spikes of bloom, with immense individual flowers of the purest white. From Mr. John Green, Dereham, Norfolk.

NYMPHEA ODORATA SULPHUREA GRANDIFLORA.—Handsome flowers of this fine variety were shown in conjunction with *N. Chromatella*. The petals are long and pointed and of a sulphur colour, with rich orange-yellow centre. From Mr. Leopold de Rothschild, Gunnersbury House, Acton (gardener, Mr. Hudson).

Messrs. Kelway and Son, Langport, Somerset, staged some fourteen dozen spikes of Gladioli, of splendid form and beautiful colour. Newer sorts largely predominated, and included *W. G. Grace*, a flower with a pink ground, flaked dark reddish crimson, with a cream throat; *P. H. Latham*, pale salmon-pink, edged rich salmon-pink, with lilac-purple markings on the lower petals. Ragged Robin was another clear salmon-pink, veined white, with a white throat, deepening to lilac at the base. This is a spike of even and good form. A pleasing contrast to the more showy colours was *Mrs. Garrett Anderson*, with large individual flowers of good form, white, veined bright purple, with purple base. A very rich deep chestnut-crimson was seen in *Sir George Newnes*, the colour deepening at the base. This was a very welcome display and imparted considerable brightness to the meeting (silver-gilt Banksian medal). The display from Messrs. R. Wallace and Co., Colchester, occupied one side of a table the whole length of the building, and contained several examples of their hardy Lilies. *Lilium Henryi* and *L. auratum platyphyllum* were massed in the centre, contrasted with several vases containing a nice lot of *Lilium Batemaniae*. Of *L. tigrinum splendens*, with its fine flowers and large dark spots, there were some fine blooms, and these, together with *L. speciosum rubrum*, made an interesting exhibit. Gladioli were freely staged, and a nice lot of *Kniphofias* assisted to merit the silver-gilt Banksian medal which this collection gained. From Messrs. Barr and Son, Covent Garden, came a nice representative lot of hardy flowers, in which handsome bunches of the perennial Phloxes predominated. Among the Phloxes there were some highly coloured examples, notably in *Aurore*, a brilliant orange-scarlet, with bright purple eye; *Jocelyn*, fine cardinal, very brilliant; *Tempête*, deep carmine-rose; *Sir Frederick Leighton*, fine large head, with individual pips of immense size and of a beautiful carmine-rose. White flowers were well shown in *Panama*, with massive branching spikes, and in *Sesostris* was seen a good purple. Burnoup is a large and handsome flower of a bright brick-red and very effective. *Lilium Batemaniae* and *L. tigrinum Fortunei* were each seen in good form (silver Flora medal). A very choice and select group of annuals in a cut state was staged by Messrs. J. Veitch and Sons, Ltd., Chelsea, and was convincing proof of the charming flowers there are among these. The Salpiglossis were very fine indeed, and appear to be comparatively little grown. These were represented chiefly in lovely self-coloured flowers, and in a great variety of

most refined colours. There were several veined flowers of a pleasing kind, but the selfs were distinctly good. For cutting the *Salpiglossis* should be freely used for all forms of decoration, where their value should be at once appreciated. In this collection there also were the double-fringed *Dianthus*, *Larkspur Empress* (rose) and *Lavatera* (Tree Mallow). The blue Swan River Daisy (*Brachycome iberidifolia*) was a beautiful piece of colour. *Phlox Drummondii grandiflora*, *Dianthus The Bride*, and the lovely *Hunemannia fumarifolia* completed a delightful list of annuals, which well merited the distinction they received. *Salpiglossis* were also finely shown by Messrs. H. Cannell and Sons, Swanley. Handsome bunches of these flowers in a charming variety of colour were most interesting, and in addition a fine lot of Sweet Scabious was much admired. A small group of well-grown Cockscombs from this firm was very fine. A silver Banksian medal was awarded. A grand bank of hardy flowers in large handsome bunches was pleasingly set up by Messrs. T. S. Ware and Son, Hale Farm Nurseries, Tottenham, but this lost much of its effect by being too crowded. Dahlias, too, were shown in large numbers, both pompon and Cactus types of the flower being freely displayed. Of the pompoms, several of those sorts which have long held favour, and such as *Crimson King*, *Tommy Keith*, *Darkness*, *Mars*, *Sunshine*, *Achilles*, among the Cactus forms, were set up in pretty sprays. Of the hardy flowers, *Lilium auratum vittatum*, *L. auratum*, *L. tigrinum splendens*, *Scabiosa caucasica*, *Delphinium*, *Erigeron speciosus*, *Helianthus*, *Pentstemon barbatus Torreyi*, *Aconitum autumnale*, *Echinacea purpurea* and many other interesting hardy plants were well shown (silver Banksian medal). The collection of *Bouvardias* which came from Mr. H. B. May, Dysons Lane Nurseries, Upper Edmonton, occupied the whole length of the table, and comprised no less than twenty varieties. The most noticeable among them were *Bouvardia Humboldtii corymbiflora*, with very large pips on trusses of blossoms which were freely displayed, and these were of the purest white. A bright scarlet is *President Cleveland*, and developed in dainty bunches, and a free and chaste variety was also seen in *candidissima*. *Reine des Roses* is a beautiful salmon-rose, and with *Maiden's Blush* and *Purity* completed the list. A handsome double form of zonal *Pelargonium* was represented by *Anna Bateman*, a pleasing salmon-pink. This group was edged with Ferns and formed a welcome contrast to the more showy subjects in other exhibits (silver Flora medal). A large group of miscellaneous plants was pleasingly set up by Mr. Purnell Purnell, Woodlands, Streatham Hill, including tuberous *Begonias*, *Fuchsias*, *Liliums*, Ferns and other fine-foliaged plants. A silver Banksian medal was awarded to this group. From Sir Trevor Lawrence, Bart., came a collection of *Gladioli*, *Rudbeckia bicolor* and some seedling *Anthrums*. A charming rose-pink *Verbena*, *Ellen Willmott*, was much admired (silver Flora medal). A splendid plant of *Rubus phoenicolasius* (Japanese Wineberry) about four years old had been lifted from the open. This is an excellent plant for trailing over large boulders in the rock garden and the fruit also makes a delicious preserve. This came from Messrs. J. Veitch and Sons, Ltd., Chelsea.

Fruit Committee.

Awards of merit were given to—

APPLE LANGLEY PIPPIN, a cross between Cox's Orange Pippin and Mr. Gladstone. It is not unlike Cox's Orange in appearance. The flesh is soft, very early, and of good quality. This will make a good early dessert variety, and the fruits are of good shape and colour. From Messrs. Veitch and Sons, Ltd., Chelsea.

TOMATO CURRANT.—This, only a little larger than a fine Red Currant, is of good flavour, very free cropping and a good decorative variety. From the Royal Horticultural Society.

Messrs. Bunyard and Co., Maidstone, staged a very fine collection of Apples, Pears, Peaches,

Plums and Nuts, in all some sixty dishes. The fruit was particularly bright, the best Apples being *Golden Spire*, *White Transparent*, *Yorkshire Beauty*, a beautifully coloured pale waxy fruit, Mr. Gladstone, *Duchess of Oldenburg*, *Manks Codlin*, and *Lady Sudeley*. The Pears most noticeable were *Petite Marguerite*, Dr. Jules Guyot, *Beacon*, and *Beurré d'Amanlis*, of splendid colour. *Galande*, Dr. Hogg, *Stirling Castle*, *Dymond*, and *Royal Charlotte* were the best Peaches, *The Czar*, *Early Prolific*, and *Comte d'Athene* being the best Plums (silver-gilt Knightian medal). Messrs. Rivers and Son, Sawbridgeworth, sent very fine *Dryden* *Nectarines* and *Early Silver Peach*, with *Oullin's Golden* and *McLaughlin's* and other *Gage Plums*. They also showed excellent fruits of their late *Frogmore Gage*, a very beautiful Plum, and *Peasgood's Nonsuch Apple*, very fine for so early in the season (silver Banksian medal). A neatly arranged exhibit came from the Dowager Lady Freake (gardener, Mr. Rickwood), Fulwell Park, Twickenham. Here were good *Morello Cherries*, *White and Red Currants*, *Black Hamburg Grapes*, well coloured with good berries, nice fruits of *Beauty of Syon* and *Syon Perfection Melons*, good *Plums*, excellent *Peaches*, including *Early Louise*, *Alexandra Noblesse*, *Hale's Early* and *Goshawk*, *Lord Napier Nectarines*, *St. John's Figs*, *Pears* in variety, and early *Apples* (silver Banksian medal). Mr. Miller, Ruxley Lodge Gardens, Esher, received a cultural commendation for six dishes of *Figs* and *Peaches*. The same award was given to Mr. Hudson, Gunnersbury House Gardens, for *Strawberry Royal Sovereign*, very beautiful fruits for the season, being well coloured and of good size and quality. These were gathered from plants that had been forced and planted out in the early summer. The same exhibitor sent alpine *Strawberries* to illustrate the lecture, the varieties being *Belle de Meaux* and *Rouge Ameliore*. Messrs. Laxton, Bedford, sent good fruits of the little-known *St. Joseph*, a perpetual fruiting variety, both fruit and plants in pots being staged. This is a good late fruiting variety, and will prolong the *Strawberry* season. The same firm sent *Laxton's Perpetual*, a variety that fruits from the new runners after the parent plants have fruited. This will be an acquisition. Messrs. Cannell, Swanley, sent fruiting plants in pots of *Louis Gauthier* and *St. Joseph Strawberry*. Messrs. Harrison, Leicester, sent fruiting sprays of the new *Strawberry Raspberry*. Mrs. Abbot (gardener, Mr. Kelf), South Villa, Regent's Park, showed fine *Sea Eagle Peaches*, and a white-fleshed *Melon* came from Mr. Henderson, Buscot Park, Faringdon. A new *Tomato*, named *Beauty of Sark*, was staged, but it was very much like *Duke of York*.

NOTES OF THE WEEK.

Spiræa venusta in moist places has been very effective this season, and perhaps may be cited as one of the most effective of the herbaceous kinds, both in the arrangement of the mass of blossoms and in colour. Where root moisture is plentiful the plant increases rapidly, and in the border when the season is not one of continuous drought and heat this species affords a good display of its pretty flowers.

Ononis rotundifolia.—This pretty plant has flowers of a rather unusual colour, and is invariably much admired when in bloom in the early summer. It is referred to just now because of the approach of ripening its seeds, and because the plant is well worth increasing by this means. The plant is not fast-growing, and the seeds are safe when sown in the open ground in shallow drills of fine soil. In this way the young plants take up but little room and attention.

Anomatheca cruenta.—This is a pretty bulbous plant of easy culture in pots and flowering during this and the coming month. If planted out it should only be in very warm positions, where a sheet of glass can be placed over it, or, better still, it may be lifted and kept in dry sand or earth till the end of February. In the late summer the crimson-red flowers are very showy, and the plants, if given liberal treatment after

a season of rest, will be found very interesting when in bloom.

Lapageria alba.—Mr. W. Milner sends us from his garden at Totley Hall, Sheffield, two very beautiful sprays of this Chilean climber wreathed in bloom. They are the finest specimens of this we have ever seen. As a cool greenhouse climbing plant the forms of *Lapageria* have but few rivals, a peaty, free open soil being essential to their well-being. We should like to know something of the treatment by which Mr. Milner obtains such fine growths.

Nierembergia rivularis is a pretty low-growing plant with large, nearly pure white flowers of considerable size when compared with the habit of the plant. Planted in cool and comparatively moist spots, the plant spreads rather freely, and large patches in some garden soils soon result. In others, again, the plant does not seem so happy. Where strong clay soils obtain and the drainage is poor, the plant is scarcely hardy in winter. Difficulties of culture have been overcome by a free addition of leaf-soil, grit, and occasionally peat siftings.

Oenothera macrocarpa.—As a showy, free-flowering and vigorous-growing subject this fine *Evening Primrose* has much to recommend it, and the handsome pale yellow blossoms, being of large size, have a good effect. In the rock garden the plant trails freely, and for other positions also may be turned to good account. For instance, where large beds are planted with *Lilium*, *Gladiolus*, *Hyacinthus candicans*, and such like things, this *Evening Primrose* is a good subject for carpeting the ground, and being easily raised from cuttings as well as seeds, abundant stock for such free use may soon be had.

Carnation Leander.—I have found this the most satisfactory of the yellow kinds. With me it makes a really vigorous growth, quite different in this respect from *Germania* and other yellow varieties I have tried, and the flowers are carried on good strong stems. I am of opinion that raisers of yellow *Carnations* should make much use of this variety, for no matter how good the quality of the flowers produced a *Carnation* that is of weakly constitution is of but little use. Among the yellows we sadly need kinds of a really vigorous nature.—J. C. B.

Bouvardia Humboldtii grandiflora.—Some time ago I referred to the above, and was then doubtful as to its proving quite distinct from *B. H. corymbiflora*, but now having grown the two varieties together I find the former a great advance on the latter, both foliage and flowers being of greater substance. It also appears to be very free flowering, plants in 5 inch pots with from eight to twelve shoots about a foot high showing bloom at every point. Some of the earliest have already opened some flowers which show a marked improvement on those of the older variety.—A.

Inula oculus-Christi.—The *Inula* described under this name on p. 169 is typical *Inula grandiflora*. It corresponds exactly with the type of *I. grandiflora* (Willd.) both in Kew Herbarium and in the Herbarium Boissier at Geneva. What usually passes in gardens for *I. grandiflora* is either *I. glandulosa* or *I. Hookeri*, or both mixed. *I. oculus-Christi* is not ornamental, making a scattered umbel of flowers resembling in size and appearance those of the native *I. dysenterica*. *I. grandiflora* may be seen now flowering in Kew Gardens under its right name.—C. WOLLEY-DOD.

Pentstemon glaber.—Some nice plants of this have been more or less showy for some time past and flowering freely in the open border. Indeed, unless the soil is of good depth, the border is better suited to such as this than the rock garden, where the drainage is too rapid in times of great drought. There is a reddish tinge in the bright blue of the flowers of this plant that renders it effective, and when patches of more than a foot across are secured, there is freedom of flowering as well as profusion for a long time. A little later on cuttings may be secured of this, also such as *speciosus*, a nearly-allied kind, and

the pretty bush-like heterophyllus, all of which are worth growing.

Erodium supracanum.—When this has formed good tufts of its deeply-cut leaves, the plants are almost daily covered with the whitish blossoms. These latter, however, are so heavily lined with reddish-pink veins as to give the blossoms an almost pink appearance. Small plants are not particularly showy, for the reason that only one flower is open at a time on each spike, but in a couple of years from seed, the plants, if given a sunny position in deep, gritty loam in the rock garden, will have formed good tufts and produce many spikes, continuing to flower for some three or four months in succession.

Tritonia rosea.—*Tritonia rosea*, which is often offered for sale under the name of *Montbretia rosea*, is at present in flower here. It may be of interest to other admirers of bulbous plants for me to say that I believe it to be quite hardy in the south-west of Scotland in warm borders. I was afraid to risk it outside until I had seen it in some other gardens in the district referred to. *Tritonia rosea* forms a pleasing change from the more massive spikes and flowers of the *Gladiolus* or the yellow and red *Montbretias*. Its habit is neat and graceful, and the rosy pink flowers are pleasing and useful for cutting.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Zephyranthes candida.—My first flower of the Peruvian Swamp Lily for the season opened to-day (August 22). Pretty as it is with its white *Crocus*-like flowers when fully expanded, it is, I think, even prettier when in bud just before it opens. Of a pure waxy white, but tipped with rose near the points of the segments, it looks exceedingly beautiful when surrounded by the stout grassy leaves. It is grown here in a warm spot at the base of a rockery, where it has almost a due south exposure and gets the sun the greater part of the day. One can hardly have too much of this beautiful bulbous plant where it succeeds.—S. ARNOTT.

Rosa Wichuriana.—A plant of this Rose put out in early summer is now in flower, and when growing and in bloom realises one's expectations formed from reading of it and seeing it elsewhere. Its shining green foliage and its single white flowers are charming in the rock garden, for which it is so well suited. Like all the single Roses, the flowers are too short-lived for us to enjoy them long, but they are enjoyable while they last, and are soon succeeded by a few others. *Rosa Wichuriana* should have a fair amount of space allotted to it, and should form a good carpeting plant for spring bulbs.—S. ARNOTT, *Rosedene, Carsethorn, by Dumfries, N.B.*

Carnations from Kelso.—By accompanying post we send a few named blooms of our Carnations. All have been grown outdoors from layers planted last autumn.—LAING AND MATHER.

* * We are very pleased to find that some present-day raisers are devoting their attention to the beautiful self colours, and we hope that no new variety will be sent out until it has been well tried for two or three years in order to prove its value for the outdoor garden. Among the varieties sent are Mrs. David Dunlop, white; Lady Waldie Griffith, rich purple; Mephisto, dark crimson; Valkyrie, pink; Viscountess Melville, pale scarlet; and The Pasha, apricot-tinted.—ED.

Meadow Saffrons.—On August 20 I observed the first of my Meadow Saffrons in full bloom. Some of the species or varieties are rather mixed so far as regards their nomenclature, but the two in flower were received as *C. Bertoloni* and *C. Bivonia*. The former is of fair size, but rather paler in colour than the latter, which is pale purple. It is unfortunate that we have not more variety in colour among these Meadow Saffrons, but, taking them all in all, they are of much value, especially in gardens fully occupied with herbaceous plants, which as autumn advances are apt to be a little wanting in colour. In the rock garden the Meadow

Saffrons and autumn Crocuses are invaluable.—S. ARNOTT.

Leucojum autumnale.—This charming little autumn Snowflake has been in flower for a week or two, and one cannot resist the desire to draw attention once more to so pretty a bulbous plant. A little clump is delightful with its glossy white drooping flowers and chocolate stems. In two or three other places solitary flowers from seedlings have opened among other dwarf plants. Were it more plentiful, one could imagine the beauty of a sheet of some deep green mossy Saxifrage spangled with the little flowers of the autumn Snowflake. Here it does very well, and seedlings either from seeds saved and sown or self-sown are becoming plentiful.—S. ARNOTT, *Carsethorn, by Dumfries.*

Silene virginica (Fire Pink).—While this striking plant cannot be regarded as generally suited to the climate of Britain, yet it is one of the most brilliant subjects when in flower, and worth some care to get it established in the garden. Its flowers are of a vermilion-scarlet, very brilliant in colour—indeed, among the richest colours to be found among perennials. As a rule the small bits imported do but little good, and where an attempt is being made with the plant it would be safer, perhaps, to secure fresh seeds direct from its North American home, and sow at once in very sandy loam and peat in about equal parts. Slugs, however, are very fond of this genus, and some care will be needed to keep such away from this the most brilliant of its race.

Lithospermum prostratum.—Among the ever-popular blue-flowering plants, this pretty trailer is always admired when seen in good condition. With the great heat and drought of this year, however, it is only in few places the plant flourishes, and of these preference is given to a rather shady spot in good soil. Old plants that have put on a rusty look in the past often lose a lot of foliage near the centre. In other instances if a slight pinching or pruning be adopted and a good rich mulch given, both in early spring, there is hope of more compact tufts in what is certainly one of the most delightful of blue-flowered plants. It is now a good time to put in cuttings of this plant, the young bits stripped off with a heel attached being the best, and a cold frame or close hand-light, where a sandy soil has been prepared, the best position. Such cuttings as these root freely and are safe for the winter in such a position, with the lights removed in mild weather.

Sempervivum arachnoideum.—Despite the fact of this being one of the prettiest of the Houseleeks, it is only rarely one sees it spreading out into patches of sufficient size to command attention. With a little extra care it is a plant that may be made attractive, but when left to itself it frequently becomes crowded and ineffective. It is surprising what may be done with the tiny webbed rosettes that cluster round the larger ones by picking the former off and pricking them out into separate colonies by themselves. Growers of these webbed forms will not need reminding how much purer in tone as well as abundant is the web itself when the plant is in free growth, and since this is the characteristic feature of these forms, it is but justice to the species that the best side should be apparent. Some plants of *S. a. Lageri* so treated make a fine display. All that is needed is a patch of ground, say 2 feet across, rather sloping preferred, the loam freely mixed with old mortar, and the surface made quite firm. When this is done, dibble the rosettes out thickly over the surface and water thoroughly. During the season of growth the web-like down on the surface will be very pure and effective, due to the freedom of growth and greater sustenance enjoyed by the individual rosettes of these interesting forms, all of which are worthy of like treatment.

The weather in West Herts.—Another hot week, the highest temperature in shade reaching 80° on four days, while the nights were again very

warm. During the night preceding the 22nd the thermometer in the screen never fell lower than 60°, and on the following day rose to 84°, thus giving a mean temperature of 72°, which is higher than any similar reading recorded here since August 18, 1893. At 2 feet deep the ground is at the present time about 6°, and at 1 foot deep as much as 8°, warmer than the averages for these depths. Rain fell on but one day of the week, and then the amount deposited proved very small. The ground is consequently again becoming very dry, no measurable quantity of rain-water having passed through either of the percolation gauges for two days. The winds have been light and the air as a rule very dry. On the 18th the difference between the readings of an ordinary thermometer and one with its bulb kept constantly moist amounted to as much as 17° at 3 p.m. The record of bright sunshine proved good, averaging nearly 7½ hours a day.—E. M., *Berkhamsted.*

PUBLIC GARDENS.

Royal Botanic Society.—At the annual meeting of the Royal Botanic Society, at which I took the chair, there was one aspect of the society I could not dwell on as I should have wished, and yet it is one of some importance. When the gardens of the society were first formed, not only were they intended to promote horticulture and the study of botany, but also to protect a spot in the centre of London where some of the quiet features of Nature might remain untouched, plants common in the country, but rare in London, might still find a home, and birds nest there undisturbed. To many, too, the sense of quiet and repose which the gardens gave was delightful—a feeling of rest which only the country can give. It was for these reasons that the Fellows reserved to themselves the right not to admit the public indiscriminately; that, like the squares, a character of privacy was maintained, though it was never difficult for quiet people to obtain admission, or any serious student of Nature. This spirit of exclusiveness is not now maintained, and the gardens are as much open to the general public as is possible, if they do not altogether lose the original intention with which they were formed, and the natural beauty, which they still possess, altogether disappear. To turn them into an inferior Ranelagh, or a bad imitation of the Palmen Garten in Frankfurt, would probably end in a financial failure, and take away one of the few places where the tired man of business, the invalid, and the old may find a few moments of repose, a few minutes of quiet, away from the noise of the crowded street, the cyclist, and the omnibus. They who like crowds have every opportunity of enjoying themselves in London, but those who would fain be a moment at rest hardly know where to go. Every day before the ruthless builder tranquil spots and relics of the past disappear. The few which it is possible to preserve become every day of greater value.—C. BRINSLEY MARLAY, in the *Times*.

Crocus vallicola.—In case of my bad example leading anyone else astray, permit me to say that *vallicola* is the correct termination of the specific name of this *Crocus*, and not *vallicolus*, as written in the note on p. 140.—S. ARNOTT.

Veronica Dieffenbachii.—I send blooming branches of *Veronica Dieffenbachii*, as yet uncommon. The thick leathery leaves and large handsome spikes of blue flowers, at length bleaching to white, render it one of the most ornamental as well as best marked species. The little cushions of *V. canescens*, less than half an inch in height, are now thickly studded with delicate miniature flowers. All the "whipcord" section, with the exception of *V. Hectori*, have bloomed this season.—ROBERT OKELL, *Sutton, Douglas, Isle of Man.*

Names of plants.—*D. M.*—1, *Gentiana septemfida*; 2, *Rumex crispus*; 3, send fresh specimen.—*Edward Sutton.*—*Tecoma radicans.*—*C. E.*—1, *Viburnum macrocephalum*; 2, *Adiantum concinnum* latum; 3, *Adiantum formosum*; 4, *Davallia* sp.; 5, *Pteris scaberula*.

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ORCHIDS.

SACCOLABIUM CÆLESTE.

THE pretty blue of this species is brighter and better than that of many so-called blue Orchids, at least in the better forms. It occurs on the tips of the sepals and petals and a great part of the lip, the rest of the flower being white. It is the contrast between this and the blue that makes the species so attractive. Like many others of this class of Orchid, *S. cœleste* is much more satisfactory in some collections than in others, and it is difficult to say why. The plant is of a rather stiff habit of growth, and likes a small receptacle and rather poor root-hold better than a large body of material. For this reason I have usually treated it something on the lines laid down recently for *Vanda cœrulea* as to compost and baskets, but given it a higher temperature. The roots like rather to lay hold of something in the way of burnt clay or wood than to embed themselves in cubic inches of compressed *Sphagnum Moss*. It is more natural, and the plants under the circumstances keep longer in health. The size of the baskets depends, of course, on that of the plants, but I like one plant in a small receptacle, provided it is healthy and well rooted, better than a large made-up specimen in a larger basket. It runs dry quicker and the air plays with greater freedom about the roots and the base of the stem, an important point with these truly epiphytal species. As regards moisture, *S. cœleste* can do with as much as most when healthy and growing freely; without it, in fact, it is useless looking for strong, vigorous growth, but the water must get away quickly. The plants must be on the dry side before a fresh supply is given, and then enough must be allowed to thoroughly soak every inch of the compost and every root in the basket. This point is, I firmly believe, where many amateur Orchid growers go wrong. An Orchid is not like a Heath; the roots may be quite dry for hours—are dry doubtless for days in their native

habitat—but the beginner in their culture if he sees a plant at all approaching dryness at the root proceeds to give it about a couple of tablespoonfuls of water. Better by far leave the plant until it is really dry even in the midst of the growing season, and then give a thorough soaking. A week's drying will not harm a healthy growing Orchid much, but to be always in a kind of medium state, neither dry nor wet, is bad for every kind of epiphytal species.

This beautiful *Saccolabium* likes more sun than the majority of distichous-leaved Orchids, and plants that get plenty of sunlight are always more free-flowering, and, I think, live longer under cultivation than others grown in a very dense shade during the summer months. The leaves are hard and stiff; they seldom drop at the axils after a long cold winter, and, owing to the amount of root moisture they are able to take under such conditions, they produce flowers of fine substance that last well in good condition and do not harm the plants. It is annoying, too, to grow a plant well and apparently keep it in the best of health for a time only to find after a while that spot has set in with all its virulence and destroyed in a few weeks what has taken months to build up. This has always been my argument against heavy shading. Grow the plants as strongly as possible by all means, and put on as many leaves as you can in a season, but let the growth be consolidated as it is made, or at next potting time the plant will be as small as ever owing to the number of leaves lost in a cold winter.

H. R.

Cattleya Loddigesi.—This is a lovely species and a rather variable one. It is one of the best kinds flowering now, and has been used rather freely by the hybridist. A hybrid between it and *C. Leopoldi* was very pretty, the flowers partaking largely of the *Loddigesi* shape, with the characteristic spots as seen upon the popular variety of *C. guttata*. The species is not difficult to grow, though not so vigorous as some, and it does well with other Brazilian species in the

intermediate house. It should be very sparingly watered during the winter months.

Cypripedium Charlesworthi.—This pretty and popular *Cypripedium* is still in good condition and to be seen in almost every collection visited. The one thing against it is that often the upper sepal loses the fine colour it has when first open, and what was a very bright and effective colour fades to a washed-out tint that is not very attractive. At Livermere recently I noted a plant that had been in flower a fortnight or over, and the colour was as good as when it first opened. If all the plants in cultivation did this the species would be even more popular than it is.—H.

Cypripedium Pearcei.—The long rhizomes of this species soon carry the growth out of the influence of the compost, and by growing over the sides of the pan or basket gets weak unless disturbed, which is against its flowering freely. I lately saw it planted on a moist rockery, and this seems to me to be one of the very best ways of treating it. The plants are evidently quite at home, for the roots have something tangible to lay hold of and are naturally much stronger than others growing in the air. It is one of the small points worth taking note of, especially by anyone not particularly successful with this pretty and out-of-the-common species.

Lælia monophylla.—This singular species I have noted in flower very much earlier than usual. It is quite distinct from any other *Lælia*, the flowers, occurring singly on the scapes, being bright red and individually about 1½ inches across. The plants were growing in an ordinary plant stove and appeared fairly happy. The bright flowers are certainly very attractive, and it should be more grown. *L. monophylla* dislikes much compost and usually thrives best if attached to blocks, and these placed in baskets with plenty of drainage and not much peat. It is a native of Jamaica, where it is found at a considerable elevation, and though long known has only been in cultivation since 1881.—H. R.

Zygopetalum Gautieri.—There is considerable variation both in the size and colouring of this fine Orchid, which is becoming much more popular than was formerly the case. It is a beautiful plant and one that is worthy of all care.

I have seen it doing well on many occasions in an intermediate temperature, but certainly the best growths and finest flowers I have seen are on plants grown in quite a cool house. The foliage and bulbs are so healthy and green as to leave no room for doubt that their position suits them, and they are, moreover, extremely well flowered. This species seems intermediate between the creeping section, such as *Z. rostratum* and *Z. maxillare*, and the stouter *Z. Mackayi*, and though it is hardly safe to give so much or so heavy a compost as for the latter, yet the stout fleshy roots require plenty of sustenance. Pieces of Tree Fern placed in pots and filled around with a free open compost form capital holding for the roots, and they have the choice of both stem and compost to run into. The growth is very free if kept clean, but scale is very fond of the tender bulbs and leaves, soon ruining their appearance if not checked. *Z. Gautieri* is a native of Rio, introduced about 1867.—H.

ODONTOGLOSSUM PARDINUM.

JUDGING by the appearance of the pseudo-bulbs, this pretty *Odontoglossum* should be more easily grown than the majority of species, for these are large and the roots look strong and vigorous. But this is not always the case by any means, and in many places it is far from well grown, though other and weaker growing kinds flourish. The pseudo-bulbs are pale green, the spikes of flower very large and occurring from the base. The ground colour of the flowers is a pale yellow, and this is covered with reddish spots on the petals and lip. To grow *O. pardinum* strongly larger pots than those used for most kinds are necessary, but a large amount of compost is not required. The thinner in fact this is kept the better, for the roots, though large, are soft and easily damaged by too much water. Very rough material is also required, the charcoal and crocks being broken into large lumps, the roots taking hold of these and thriving better than in a closer and more moisture-holding medium. With such species as this the need for care and judgment in watering is great, especially in winter and after the plants are repotted. Any slackening of moisture at the roots at a time when growth is active will be followed in all probability by shrivelling, and this must be carefully guarded against. But, on the other hand, the soft, fleshy roots once started to decay are not easily stopped, a black, burnt appearance being soon followed by the entire root dying. Of course this is more likely to happen with plants that have not a thorough hold on their compost, and is of frequent occurrence with plants in the second season. Some fine specimens I once grew upon trellised rafts did extremely well until the time for shifting came round—that is to say, when the rods decayed. Once disturbed, the plants never attained the same vigour they formerly had, the bulbs getting smaller annually because the roots failed to take a hold of their new home.

Another point that is very much against long-continued success with *O. pardinum* is the want of light during our long, sunless winters. For days the sun never shows through, and in addition the glass is not always kept as clean as it should be, the consequence being that these Orchids, from purely alpine latitudes do not have the chance to become robust. Air and light in winter are very necessary for them, and in the absence of these they become puny and weak, the foliage flaccid instead of stiff, while the unsatisfactory condition of the growth leads to weak flower-spikes. Flowering again seems almost too much for it in this weakened condition, and it is very remarkable that on newly-imported plants flower-spikes as thick as a man's finger have been produced without detriment, while a very much smaller spike will cause shrivelling under cultivation. The soft brownish scale that attacks cool-house Orchids generally seems particularly at home on the soft bulbs and leaves of *O. pardinum*, and this in itself is a check to the plants.

Briefly, then, all that can be done is to always maintain a sweet, moist atmosphere in the house where it is growing, the temperature being as advised for New Grenadan species generally; to make as sure as possible of the roots getting a good hold of their adopted home—this at the same time being of a lasting character—and to keep foliage, bulbs, and roots clean as the term may be applied to each. This, with care in the ordinary cultural operations, will ensure a fair amount of success, but the species is not one of the best to grow, as shown by the long time it took to flower in this country after being discovered at Quito early in the century. Time after time it was collected, but does not seem to have arrived in this country alive, and the first account of its flowering is about thirty years ago.

Masdevallia Davisii.—This beautiful plant is now in good condition in a neighbouring collection, the pretty bright yellow of the flowers being very distinct. In shape they are a little broader in the lower segments, according to the size of the flower, than those of *M. Veitchii*, and the upper sepal is broad at the base and pointed. It does well in a cool, moist house all the year round, and should have a medium thickness only of compost, this consisting of equal parts of peat and moss over good drainage. Water freely all the year round and repot in early autumn directly the flowers are past.

Promenæa stapelioides.—The small and quaintly-coloured flowers of this Orchid do not find much favour with growers now-a-days, but all the same it is a pretty species worthy of extended culture. It grows freely enough if kept clean and in good condition at the roots, but if insects are allowed to run riot—especially thrips—and the roots get into close, heavy material, the plants soon go back. The foliage is easily injured by sunlight, being of very thin texture, so shading must always have close attention. Water freely all the year round, but especially when growth is active, and lightly damp the foliage in hot weather.

Cynoches maculatum.—This singular species is not at all common, and one seldom comes across it. It is a stout grower and flowers freely, the racemes containing a large number of the quaintly-shaped blossoms. These are pale yellowish green on the sepals and petals, this colour being thickly overlaid with reddish purple spots. The lip is white. Like all the *Cynoches*, it likes plenty of warmth while making its growth and a very decided resting season. It does with a good substantial compost and abundance of moisture, taking care not to damage the young growths by too much early in the season. It comes from Mexico, and first flowered in this country in 1839.

Aerides quinquevulnerum.—This pretty species is nicely in flower this week. It is very distinct and rather showy. The racemes are long, the individual flowers about an inch across, white, prettily spotted and blotched with amethyst-purple. It deserves better treatment, as it is very easily grown in a warm, moist house. Small pieces do well in pans or baskets hung up in the East India house in such a position that, while shaded from the midday sun, they get the full advantage of its rays in the afternoon after closing time. Grow it in Sphagnum Moss and charcoal only and repot in early spring. It is a native of the Philippines, and was introduced by Messrs. Loddiges in 1837.

Oncidium tigrinum.—One may easily tell when a plant of this superb *Oncidium* is in flower by the Violet-like fragrance, which is second to that of no other Orchid. The flowers, too, are very beautiful now at this dull season, and consequently more than ever welcome. *O. tigrinum* is purely a cool-house species, and as such must be grown. In a hot or stuffy house the pseudo-bulbs may be large the first season or so, but to obtain the hard, solid bulbs that one likes to see in this class, a cool structure amply ventilated is essential. In it the growths take on a deep green colour, they look robust, and have a rustling feel to the

hand when lightly passed over them. As regards the roots, these like rather closer compost than some species, but it must not be too thick, for they cannot push through a great quantity of it. Three parts of peat fibre to one of Sphagnum Moss and enough finely-broken crocks to keep it open suit it well, the best receptacle being pots of sufficient width to allow a fair margin all round the plant. It does not need to be much elevated above the rim, but newly-imported or badly-rooted plants must be kept up a little. Water must be judiciously applied to the roots all the year round, and light syringings are helpful in hot weather.

Dendrobium bigibbum.—Most of the New Guinea *Dendrobies* are doing well at St. Albans, and this is no exception. Among a large batch suspended from the roof of one of the larger houses there are some forty or fifty plants in flower, the bright magenta-purple of the blossoms making a bright and telling bit of colour. The varieties are all good, and as *D. bigibbum* is one of the very best for cutting, it is doubly useful at this time of year. The plants are producing fine healthy growths and vigorous spikes. They are grown in small pots and pans, as these suit this section much better than large roomy receptacles. The best peat only with a little Sphagnum Moss suits the species well, and the annual routine of culture is much the same as that recently described under *D. Phalenopsis*. This species in fact is growing by the side of it at Messrs. Sander's, and is equally at home. Good forms of the old *D. Phalenopsis* were noted besides the more popular variety *Schrederianum* with a few others. *D. bigibbum* is not, I believe, found exactly in New Guinea, but close by on the islands in the Torres Straits and the mainland of Australia. It was in cultivation a great many years ago very early in the present century, but probably was afterwards lost to cultivation for some years.—H.

RENANTHERA LOWI.

I SAW two noble plants of this majestic Orchid lately in flower. The surroundings are such as to give a very natural appearance to the plants, the latter being backed up with Ferns and other fine-foliaged plants, a tank providing the atmospheric moisture which all this class of Orchids delights in, and with which this individual species is always associated in its native habitat. The plants are remarkable for their good health, and one is carrying four, the other three, of the immense spikes of flower. On each of these there are perhaps forty or fifty of the brightly-coloured flowers, but it must be noted that the blossoms of this species are dimorphous, the lower two or three blooms being quite distinct in character from the others on the same spike. This characteristic is particularly well shown in the plants referred to, and all the upper flowers are very bright yellow with reddish brown spots, the lower ones smaller and not nearly so bright in colour. The temperature where these plants are grown is not particularly high; the house may, in fact, be described as a warm intermediate one. Many of the roots do not enter the compost; in fact the majority are outside the pots altogether, looking as though they revelled in the congenial heat and moisture provided. The growth is evidently very free, and wherever the plant is grown it will require plenty of room. In a large stove, conservatory or similar structure this would have a splendid effect if trained up a tall dressed pole or Tree Fern stem; anything, in fact, that the roots could lay hold of as they are made, for without a doubt air roots are useful, as they act as auxiliaries to those in the compost. This fact is obvious to anyone who observes this kind of thing with the plants above referred to. The growths that are producing the flower-spikes are not the original tops of the plants, but side breaks that have appeared from the base since the plant has been imported. Naturally, these are more in touch with the compost, and the roots enter it at

once, giving additional strength to the plant, as evinced by this portion flowering while the tops are bare of spikes. They have evidently been some time in the pots, and it is a fact that all these large-growing species, such as *Renanthera coccinea*, *Vanda Batemani*, *V. gigantea*, and others of this class, are far better if they can be left alone. Supposing a few of the older roots do perish in the old material, there will be plenty more produced, and by top-dressing with Sphagnum Moss and charcoal these will have fresh material to run into. *Renanthera Lowi* is one of the most remarkable of Bornean Orchids, and was found by Sir Hugh Low "hanging horizontally from the stems of large trees" in very moist positions overhanging the rivers. It has often been sent to this country, but is seldom seen in flower, owing, perhaps, in part to the difficulty in establishing it and also to the fact that only those growers having large houses can give it the room it requires. H. R.

CATTLEYA GASKELLIANA.

AFTER the flowering of *C. Mossie*, until the earlier plants of *C. labiata* autumnalis come in, there is no other species so useful as this, for though *C. gigas*, *C. aurea*, *C. Luddemanniana*, and others give a few flowers in the same season, none of these can be depended on, I think, so well as *C. Gaskelliana*. Not that this even is always constant, and time after time I have had plants grow out of season, but with care in management this will not occur to the same extent as it does with the kinds above named. As a rule the flowers are not quite so large as in the other *labiata* forms, but many are very good and some of great beauty exist. The ordinary *Cattleya* house temperature suits it well, and if there is any difference the coolest end of the house may be chosen, giving it a light position not far from the roof glass. Growth should commence in spring from the base of the leading shoots, and if the plants were well watered in autumn right up to the time they were well filled out they will not need much moisture until the bud commences to elongate, as the stored-up nutriment in the pseudo-bulb keeps it going so far. Never allow the plants to shrivel, though even a slight shrivelling is not so bad as undue moisture. I saw a fine batch of this species three years since that were dried very severely during the winter, and as soon as the shoots appeared at the base, the bulbs almost immediately shrank up to about half the normal thickness. I thought the plants would fare far worse than they did, for, seeing them again in the autumn, most of the old bulbs had again filled out, notwithstanding the new growths had flowered well. But the experiment was not repeated, and while far from advising heavy waterings in winter, especially late winter, too little water is almost equally bad. When the growth is small, light overhead moistenings may be given in the form of spray from the syringe, but a little later and before the leaf shows this must be discontinued. The flower-spikes appear at the top of the newly-formed growths and are usually about three or four-flowered. The colours are as varied as in others of the *labiata* group. There are also forms with very deeply coloured segments and others pure white. They last about a fortnight in good condition if not spotted with damp or bruised. After flowering, keep the plants well up in the house where they get plenty of air and endeavour to keep them quite dormant until after the turn of the year. *C. Gaskelliana* is a native of Venezuela, whence Messrs. Sander and Co. imported it in 1883. H.

NOTES AND QUESTIONS.—ORCHIDS.

Anguloa uniflora.—It is getting very late for this pretty species to be in flower, but I have noted it twice during the week. The growth in neither case had started rooting, and this bears out what I have frequently advanced, that it is in the majority of cases better to leave the plants until after flowering before giving new material. The flowers are nearly

pure white externally, with usually a few rosy pink spots inside.

Oncidium incurvum album.—This is a rare and pretty variety of a well-known species. The flowers are pure white with the exception of a yellow crest on the lip, the spike being much branched. The habit of the variety is the same as that of the type, and the culture is easy provided it is not kept too hot and moistened according to the state of growth.

Cœlogyne Massangeana.—This is one of the freest flowering of Orchids, and if a fair number of plants is grown keeps up a display more or less over the greater part of the year. Large plants I have noted this week have the flower-spikes just getting past, and another lot about 3 inches high. The spikes are about 30 inches long, and are covered nearly all their length with the somewhat dull-coloured but interesting flowers.

Stanhopea oculata.—This I have noticed in flower in several collections lately. The plant is a good grower and thrives well under the treatment advised for others in the genus. A fine variety I lately saw had two fine spikes, one of them carrying seven very large and highly coloured flowers, making a fine display and emitting a delicious perfume in the house. It is a native of Mexico, and was introduced by Messrs. Loddiges in 1829.

Cymbidium elegans.—A fine spike of this *Cymbidium* I noted lately. Though not a showy Orchid it is quite out of the common—more like *C. Mastersi* than any other—and very interesting. The blossoms are whitish or light yellow, drooping upon an erect spike, and they have the habit of remaining half closed, as it were. This species does well in a compost of equal parts of loam fibre, peat and Sphagnum Moss. It is a native of Nepal, where it was discovered by Dr. Wallich about 1820.

Cattleya velutina.—This is not as a rule much cared for by Orchid growers, but in its best forms it is very pretty. The sepals and petals are a kind of old gold tint and very prettily undulated. The lip is whitish, with lines of purple radiating from the orange-yellow centre. Some forms have the lip entirely rose-purple, except a paler margin in front. Under cultivation this plant does well if treated like the varieties of *C. guttata* or *C. Loddigesii*, and flowers on the apex of the newly-formed growths. It is sometimes described as a natural hybrid, but this, I think, is extremely doubtful.—H.

BOOKS.

ROSES AT CANNES.*

THIS is a catalogue of Roses grown in Lord Brougham's garden at Cannes, and it is not made upon any fixed plan, as the descriptions vary very much. It is illustrated with the coarse process cuts now, unhappily, so common in books, and which fail almost completely to show the extreme beauty of the subjects chosen, such as that of a fine *Banksian* Rose growing over an Olive tree. There must be a great deal that is interesting in the culture of Roses in that part of France, which would certainly have been profitable to have gone into more fully, especially the question how the finer Tea Roses do on their own roots there. On this subject there is a sentence which in point of clearness leaves much to desire: "*Roses do well here on their own roots, whether as standards, bushes, or trees, if they are worked—that is, budded or grafted—on another stock.*" The amusing nonsense of this reminds one of some of the sentences of the people who explain that the Pansy is not a *Viola*. Although the list of Roses is pretty full, some of the great Roses are not included in it, such as *Anna Olivier* and *Bouquet d'Or*; but of this we cannot well complain, as Lord Brougham cannot grow every Rose, and must have his favourites. We append

* "*Roses at Cannes.*" By Lord Brougham and Vaux. John E. Bumpus, Ltd. 1898.

a few of the descriptions of Roses that are less generally known here perhaps than some others, no doubt owing to difficulties of climate in some cases.

"CHROMATELLA.—Of all Roses in cultivation this is the most beautiful. Intense golden-yellow flowers, perfect in shape and substance, large, on big, firm stalks. This Rose has become capricious, and is difficult now either to grow or flower well; time was when it flourished exceedingly, and so abundantly that its flowers formed the usual decoration for churches, &c., at Christmas or Easter. Now, with every attention, it seems to languish and put forth but feeble flowers, but there are cases when left to itself it prospers as it did twenty-five or thirty years ago. One plant I remember in particular, placed apparently in a very unfavourable situation, looking north, and being on the edge of the grande route de Frejus, is for ten months out of twelve covered deep with dust; it has grown into and taken possession of an Olive tree, putting forth its splendid golden flowers here, there and everywhere, a sight that must afford true delight to all who love the Rose. Plants of this variety were taken to Kent about fifteen years ago, in the vain hope that they might prosper and flower. Some think that this and Cloth of Gold are one and the same, but I am inclined to believe they are distinct varieties.

"COMTESSE DE LEUSSE.—Tender rose colour, with centre shaded almost to gold, ruby-coloured buds, large flowers, not very full and imbricated. Plant vigorous, growing to a large size, very free-flowering, altogether a splendid variety; shows to great advantage in a semi-shaded situation. I do not think this fine Rose is much known in England, where, judging from its manners here, it should succeed.

"DUC DE MAGENTA.—Rose-coloured, shaded to salmon. When grown in a situation and in circumstances congenial to it, it nearly approaches a floral wonder. Does equally well as bush, standard, or climber, and grows to a great size. I have seen a stem as big as a man's arm and defended by enormous thorns. It produces an abundance of flowers of good size and regularity. The English grower who is recommended to harden his heart when engaged in disbudding (hoping thereby to obtain a few fine flowers) would be astonished if he saw the Duc de Magenta, which has taken possession of an old Olive tree here, unpruned and never a flower-bud taken off. His Grace produces many scores of perfect flowers at the same time, any one of which would be good enough for show purposes.

"GENERAL SHABLEKINE.—A strong pink, shaded to brilliant copper, reverse of petals almost purple. Grows to a good size, very hardy and vigorous, cares neither for cold, or damp, or sun, nor is liable to mildew. If a law was passed that one man should cultivate but one variety of Rose, I should without hesitation choose General Shablekine; for general utility it is without rival, flowering continuously from October to summer, flowers of fine shape and wonderful evenness; a hundred blooms could be gathered off one plant, and every one exactly resembling its neighbour; the flower-stalk has a peculiar curve, which identifies it from other sorts. But little known in England, which is surprising, as its good constitution and hardiness would almost guarantee success in a colder and more gloomy climate. This of all Roses serves us most faithfully and generously.

"MME. MARIE LAVALLÉE.—Bright rose, shaded and lined with white, almost single, vigorous, and remarkable for its freedom of growth—a very beautiful and most graceful Rose, a general favourite with all who know it. Not a long-lived sort, the flowers from young plants being greatly superior to those of, say, four years or more. The petals are delicate and easily injured by wind or sun. Answers very well under glass.

"MME. CROMBEZ.—A pure yellow, good-sized flower, full, imbricated, with outside petals reflexed after the manner of *La France*. When well done this is the most beautiful of all Roses;

it seems to be capricious, hence not too popular among the growers; satisfactory for cutting, as it lives in perfect condition a long time in water. One of our greatest favourites.

"SYLPHIDE.—Yellow flesh-colour, vigorous, grows to a big size, and sweet-scented. In bud or half-open stage no Rose in cultivation can excel it in beauty, shape, or delicacy. Filbert-shaped, with petals folded one on the other with remarkable regularity, the edges slightly recurved as in *La France*. Flourishes to great advantage under the protection of glass, its flowers being very delicate. Wind or rain or too much sun are detrimental to the perfect opening of its flowers. Beautiful foliage of the same shade as that of *Maréchal Niel*. Not a common Rose, but one well deserving more attention and notoriety. Unfortunately, a great favourite with the Rose bug."

CHRYSANTHEMUM PAPERS.

THE French National Chrysanthemum Society has recently issued a reprint of the papers which were read last November at the Orleans Conference, and which originally appeared in the society's journal, *Le Chrysanthème*. The first of these papers is entitled "Diseases and Parasites of the Chrysanthemum," by M. Chiffot, of Lyons. This gentleman describes the various insect pests and the diseases they cause, and the treatment necessary to deal successfully with them. A double-page illustration accompanies M. Chiffot's article, which treats of the insects in their proper classes, orders, genera, and families, while with regard to the vegetable parasites, remedies are given to enable the grower to combat them.

M. R. Gerard contributes a paper on "The Fertilisation of the Chrysanthemum," which is also illustrated with figures explanatory of the process, whether of self-fertilisation or cross-fertilisation, the latter of which was not until recent years much understood or practised in England, but which seems to have long interested the French raisers of new Chrysanthemums.

The third and last of the series is from the pen of M. H. Fatzer, a well-known practical cultivator for exhibition, and one of the very first in France to demonstrate to the public the capabilities of the popular autumn flower. The subjects dealt with by this gentleman are the best manures and composts to be used in growing Chrysanthemums. After several observations on chemical subjects, and coming to the question of applying liquid manures, M. Fatzer says: "Do not forget this principle: The more vigorous a plant is, the more frequent should be the liquid manure waterings; but the slower the growth, the less frequent they should be."

These papers form a neat little brochure of thirty-six pages, and are well printed and stitched in a paper cover. The price inclusive of postage is only a shilling, and to any grower interested in the subject, and capable of reading French sufficiently to master some of the technicalities, the work will be a useful addition to his bookshelf. M. Octave Doin, of Paris, is the publisher.

C. H. P.

A new Chrysanthemum catalogue.—M. O. de Meulenacre, of Ghent, who has already issued several descriptive catalogues of new Chrysanthemums, most of which have been briefly noticed in *THE GARDEN*, has just issued a third supplement, published under the auspices of the Royal Agricultural and Botanical Society of Ghent, which brings the previous works up to date. In style, form, and get up generally the present issue is uniform with the previous editions, but contains the novelties from all sources that have been distributed between the years 1896-98. In view of the approaching conference at Troyes, M. de Meulenacre in his preface points out several guiding rules for the cataloguing of the names of Chrysanthemums, and which is now being very generally adopted on the Continent.—C. H. P.

TREES AND SHRUBS.

THE MOUNTAIN LAUREL POISONOUS.

(*KALMIA LATIFOLIA*.)

DESCRIPTION AND HABITAT.—A fine shrub, usually 4 feet to 8 feet, but sometimes 30 feet to 40 feet high. It has thick, flat, and shining leaves, showy clusters of peculiarly shaped, viscid, and mostly inodorous pink flowers, which appear in May and June, and a globular, viscid, dry, and inedible fruit. It grows abundantly on rocky hillsides, in cattle ranges, and on mountain slopes up to 3000 feet or 4000 feet, from Connecticut to Eastern Ohio and along the Alleghanies to Georgia and Alabama; less abundantly in the New England and Southern States as far as Louisiana and Arkansas.

POISONOUS CONSTITUENT.—The active constituent, andromedotoxin (from the name of a closely related genus, *Andromeda*), is found in all parts of the plant with the exception of the wood. It is a peculiar crystalline substance, easily dissolved out of the plant by cold water or by alcohol. It is extremely poisonous, more so even than strychnine.

VICTIMS.—Scores of cattle and sheep are poisoned annually by eating the shrub. Access to it is generally obtained by breaking away from inclosures, or through neglect or accident when cattle or sheep are being driven past Laurel thickets to upland pastures in early spring. Laurel leaves (commonly used for decorative purposes in winter), or the flowering branches, are often carelessly thrown into inclosures where animals are kept. The older cattle are not so frequently killed by it, but they are by no means immune. Horses and even goats have died from eating the leaves, and in May, 1895, a monkey was killed at the National Zoological Park at Washington, D.C., by eating a few flowers and leaves offered to it by a visitor. Deer and grouse are said to be immune, and it is claimed that their flesh, especially that of the ruffed grouse, is poisonous when they have fed upon it. It is stated that chickens have been poisoned by eating the vomited matter from poisoned animals. Experiments show, however, that they are able to withstand considerable quantities of the pure poison when it is fed to them. In these experiments the chickens were killed with chloroform after dosing for a few days. The entrails were then cast aside, and the well-boiled meat was fed to cats with nearly fatal results. The honey derived from the nectar of the flower appears to be poisonous under some conditions. Cases of human poisoning occur indirectly in the ways indicated above; directly by overdoses, or improper use in domestic medicine, probably by the secret and criminal use of the leaves to increase the intoxicating effects of liquors, and, in children, by their eating the young shoots by mistake for the Wintergreen (*Gaultheria procumbens*).

SYMPTOMS AND ANTIDOTE.—The general symptoms in sheep may be taken as representative for those in cows and goats. They are as follows: Persistent nausea, with slight but long-continued vomiting and attempts to vomit, frothing at mouth, grating of teeth, irregular breathing, partial or complete loss of sight and feeling, dizziness, inability to stand, extreme drowsiness, coma, and death. The irregularity of the respiration is most characteristic, being present throughout the main part of the attack. In addition to most of the above effects there is, in man, severe pain in the head, an increased tendency to perspire, and often a peculiar tingling sensation in the skin throughout the entire body. Vomiting is very copiously pro-

duced, and consequently the effects are generally less severe than in animals. Respiratory stimulants, such as atropine and strychnine, should be given as antidotes by competent medical authorities. Oil, melted lard, or fat from bacon may be administered to animals by anyone with hopes of saving life, especially if offered when the symptoms are first noted. As a chemical antidote to be tried by physicians in cases of human poisoning, the writer suggests the internal use of a 1 per cent. alkaline solution of permanganate of potash.

The Broad-leaf Laurel is typical in its effects of a half dozen or more native species of the Heath family. They are all poisonous in the same way, because they all contain the same toxic substance, andromedotoxin. Many fatalities are recorded against the following:—

NARROW-LEAVED MOUNTAIN LAUREL.

(*KALMIA ANGUSTIFOLIA*, L.)

OTHER NAMES.—Sheep Laurel, Lambkill, Sheep Poison, Lamb Laurel, Dwarf Sheep Laurel, Small Laurel, Low Laurel, Dwarf Laurel, Wicky.

DESCRIPTION AND HABITAT.—Like the preceding, but smaller, only 2 feet to 4 feet high, with smaller, thinner, and narrower leaves, and smaller flowers, clustered not at the extreme end of the stem, but at the base of the fresh shoots. It is abundant at low altitudes in both dry and wet soils from Maine to New Jersey; less abundant westward throughout the Great Lakes region and southward to Tennessee and South Carolina.—V. K. CHESNUT, in "Poisonous Plants of United States."

MAGNOLIA PARVIFLORA.

ANY addition to a genus of hardy trees and shrubs so beautiful and so striking as the *Magnolias* are is always a matter of interest. In the present case it is especially so, for, in spite of its unpromising name, *Magnolia parviflora* is a worthy member of the notable group of plants to which it belongs. Of this the illustration will afford sufficient evidence. The plant from which it was prepared was imported from Japan about five years ago, and is now growing on a sunny bank in the Bamboo garden at Kew. Whilst to us in England this *Magnolia* is a new plant, it is by no means new to botanists, for it was described by Siebold and Zuccarini as long ago as 1843. In the United States, too, where they seem to have been considerably ahead of us in the introduction of several fine Japanese trees and shrubs, it has been in cultivation for at least fifteen years. There is a picture made from a plant that flowered in Messrs. Parsons' nursery at Flushing, New York, in *THE GARDEN* for December 8, 1883. This, however, does not give an adequate idea of the beauty of the plant.

Magnolia parviflora cannot, of course, be compared in its general aspect at flowering time with the early *Magnolias* of the Yulan race, which in some respects are the most wonderful trees of the north temperate zone. But as it flowers long after they are past it is not brought into competition with them. This year it commenced to flower in May, and continued to produce its blossoms until July, although there were usually only some three or four flowers open at one time. But this particular plant is as yet small, only about 4 feet high. In the beauty of its individual flowers this species will bear comparison with any other. Indeed, it has the most beautiful flowers of all the *Magnolias*. They are each 3 inches to 4 inches in diameter, the six petals being very concave and

giving the whole flower a cup-like shape. On first opening the petals are of a beautifully pure

its distinctive beauty. At first erect, they ultimately spread out quite flat, forming a disc

vide a most effective contrast with the snowy whiteness of the petals. There are three sepals,



Magnolia parviflora. From a drawing by H. G. Moon.

white. As in *Magnolia Watsoni*, it is the central cluster of stamens that gives to the flower

1 inch across in the middle of the flower. They are of a beautiful rosy crimson colour, and pro-

which are drooping and of a more creamy white than the petals. The flowers are charmingly

fragrant. This *Magnolia* gives every indication of thriving in our climate. It is of course quite hardy. The leaves are from 3 inches to 6 inches long, dark green and quite smooth on the upper surface, but pubescent beneath, more especially on the midrib and veins. The species has generally been looked upon as a native of Japan, all the plants in cultivation having been imported direct from there, but Professor Sargent, in his "Forest Flora of Japan," includes it among many other plants which he says are only cultivated in that country, and are really natives of China and Corea. W. J. BEAN.

Acer platanoides Schwedleri.—The young leaves of this Maple are red, and when first expanded they are very bright and effective, but they soon become green, and are then, of course, much less noticeable. Still, the growing points remain brightly coloured, and a tree of this variety is decidedly attractive when the mass of green leaves is lit up by numerous tufts of a reddish hue. This may often be seen during the summer if the season is not too dry to arrest growth altogether. Of course, a sunny spot is necessary to produce the brightest tints.—T.

Oxydendron arboreum.—This, which is also known by the generic names of *Andromeda* and *Lyonia*, is in some parts of the United States of quite tree-like dimensions, and under favourable conditions in this country it can almost be regarded as a tree, but still it will flower freely as a bush not more than 6 feet high, and, blooming as it does towards the end of August onward, it is all the more valuable. The flowers, which are borne in slender racemes at the ends of the branches, are white, urn-shaped, and of that wax-like nature common to many of its immediate allies. It is an old plant in gardens, having been introduced from North America in 1752, but is not often met with, owing probably to the fact that it frequently fails to grow in a satisfactory manner. A fairly cool, moist soil of a peaty nature and a not too exposed spot seem to suit it best. Apart from its blossoms, this shrub has also another strong claim to recognition, for in autumn the leaves change to a brilliant shining red colour, and they often remain in this stage some time before they drop.—T.

Bracken in the shrubberies.—In places where the wild Bracken grows freely a very pretty effect is secured by allowing it to grow up among *Rhododendrons* and other shrubs. At this time of year, after the flowers are over, it lights up the trees, and has a wonderfully pretty appearance. By far the prettiest bit of garden scenery I have seen lately was at Rougham Hall, Bury St. Edmunds. In an open part of the shrubbery, where grass walks have been laid and wide borders formed, a large corner has been planted with *Lilium longiflorum*, and the thousands of flowers now open, backed by the green of the *Rhododendron* and Fern, are really beautiful. Seen on one of the hottest days in August, the cool, refreshing green and the pure white Lily flowers were a sight not easily forgotten, and though, of course, both *Rhododendrons* and Bracken grow here like weeds, which they will not do in some places, it is worth trying to get such a lovely picture. In open positions and in some soils the Bracken takes on lovely autumn tints, and for this effect alone in the landscape it would be worth preserving or even planting where it does not grow naturally. It is, in fact, one of the most beautiful of wild plants, but so common as to pass almost unheeded.

Sambucus racemosa.—This, the scarlet-berried Elder, is far more particular in its requirements than our own native species, which it resembles to a very great extent, except that the berries when ripe are of a bright scarlet colour. It is a native of Central Europe and Siberia, and needs a cool, fairly moist soil, and only under conditions such as this is it seen at its best. When in a flourishing state, however, the brilliantly coloured berries yield a grand display at

the present time. Like the common Elder, the scarlet berried form is very variable in its leafage, there being many well-marked forms in cultivation. One of the most distinct and a strikingly ornamental shrub is *S. racemosa tenuifolia*, in which the segments of the leaf are so extremely narrow as to suggest one of the tropical *Aralias*, or a variety of the Japanese *Acer polymorphum*. It forms a very graceful bush, whose distinctive features are a great recommendation. Another variety which is, like the last, of comparatively recent introduction is a valuable addition to golden-leaved shrubs. This is *S. racemosa plumosa aurea*, in which the leaflets are so divided as to give them a plumose character, and in addition they are when first expanded of a soft yellowish green, which quickly deepens by exposure, as in the case of the golden form of the common Elder, which forms such a bright golden object in so many places. Where somewhat starved and fully exposed to the sun it acquires a richer colour than under any other conditions. There are several other foliage varieties of *S. racemosa*, such as *serratifolia*, *laciniata*, *ornata* and *pteridifolia*, but they are rather apt to outgrow some of their distinctive features when large. They can, as in the case of the common Elder, be readily propagated by means of cuttings, and, as above mentioned, the varieties *tenuifolia* and *plumosa aurea* are from a foliage point of view alone well worth attention.—T.

NOTES & QUESTIONS.—TREES & SHRUBS.

Coprosma acerosa.—This curious little shrub was at the recent show at the Drill Hall in Messrs. Veitch's group. The compact little bush is freely covered with miniature Gooseberry-like fruits, which are greenish blue and semi-transparent. It should prove of service in the rock garden.

Jasminum officinale grandiflorum.—This, which is now regarded as a variety of the common white Jessamine, was at one time looked upon as a distinct species, under the name of *Jasminum grandiflorum*. In this the flowers are larger, and tinged with red on the outside. The blossoms are deliciously scented. It is a good climber for a greenhouse, where it will flower for months together. It has also been in bloom for some time on the wall of the herbaceous ground at Kew.—T.

ROSE GARDEN.

MONTHLY ROSES.

FOR massing in long borders of sandy soil or filling large beds nothing can be more effective, lasting, or useful for cutting than monthly Roses. From the beginning of June till well into November they are covered with bloom, and if cut with long stems will make up delightful vases. In the hotter days of summer they will even last well, but it is during the autumn months that their durable qualities as cut flowers are most manifest. I have had them then in good condition for a week. The introductions of recent years give us now a variety of colours to select from, and if the new ones grow and flower as freely as the old pink one, most pleasing results can be obtained. In the gardens at Castle Howard, Yorks, there are two borders along one of the principal walks, and about 300 yards long, filled with the old pink. One half the length of the borders is of sandy loam, while the other half is heavy, inclined to clay. The Roses on the light, sandy formation grow luxuriantly and flower freely, while those on the heavy medium merely exist, proving that Roses of a twiggy habit should be given a light soil. Monthly Roses with a more vigorous constitution than the old pink should be the ones selected for heavy, tenacious soils. In the case of the borders at Castle Howard, the front row was planted 2 feet from the edge of the walk, and 18 inches from plant to plant.

The three rows were also 18 inches apart, planted alternately, and backed up with a row of Fellenberg, which formed a good screen to the vegetable ground behind it. Fellenberg is free-flowering, and frequently makes 4-foot growths, which are very useful for filling exceptionally large vases. Instead of the ordinary method of pruning adopted in the case of H.P.'s, the monthlies were clipped into a shape sloping from front to back, the front now being kept at about a foot high.

In the way of feeding I found nothing excelled farmyard liquid manure. This was liberally applied during the winter and early spring months, followed with a dressing of quicklime in early summer. The borders were never dug, only pointed about 2 inches deep, and all weeds kept down with the hoe. Under such treatment these monthly Rose borders presented a mass of colour for nearly six months every year, and were the admiration of thousands of people who saw them. Where a light soil obtains, and there are width and length of it at command, I would strongly recommend a portion being devoted to the cultivation of some of the varieties of monthly Roses with twiggy growths, and treated in the manner referred to in the foregoing remarks. If this be done, and either one variety or large groups of several be used, a very effective natural picture will be secured, and a useful source of cut flower supply be at command. J. RIDDELL.

Rose Madame Eugenie.—I have one plant of this against a wall. It would not bloom, but made all growth. This year I have kept stopping the strong shoots all through the summer when 6 inches to 12 inches long. I have had a lovely lot of blooms for the last month, and it is now full of bud. I can count over fifty buds this morning, and each shoot now forms a flower-bud, not growth.—J. M. HEWITT.

ORCHARD AND FRUIT GARDEN.

OVER-PRUNED FRUIT TREES.

ONLY those whose vocation leads them to make journeys in various parts of the country by road as well as by rail have any conception of the great numbers of over-pruned fruit trees there are in existence. Time after time the advice to be less free with the knife has appeared in these pages, apparently without any marked effect upon the majority of reckless pruners. If any good resulted from this misdirected zeal in the matter of pruning bush and pyramid trees there would be some excuse to offer, but according to my experience, the crop consists principally of dense thickets of young shoots, which effectually hide what few fruits there may be on the trees. In not a few cases the winter pruning is done with much the same exactitude as was pursued in the old days when topiary work was in great favour, but neat, mop-headed trees, or any heads of the same exact outline as a sugarloaf, are not particularly ornamental and of next to no value for producing good fruit in quantity. Owners of over-pruned trees can judge for themselves better now than at any other time of the condition of their trees, and be guided in their future treatment of them accordingly.

More rational methods of pruning ought to be initiated, starting now. Where the young shoots are so thick as to quite shut out the light and air from the inside of the trees, summer pruning should be practised, but not, as too often happens, to the extent of shortening severely every young growth on the tree. Instead thin them out very freely, spurring the shoots back to the fourth or fifth leaf. Reserve

all the more prominent growths or those at the extremities of the branches, or in positions where the tree would be improved by the addition of one or more branches, leaving them to their full length. Next winter all these reserved shoots should be left to their full length, shortening, however slightly, causing them to push forth wood growth at the extremities only; whereas if left intact the more natural distribution of sap leads to a break at nearly every joint, but in this case fruit buds, as so often pointed out, are the outcome. Thus growths formed this summer and left to their full length for another whole season will in most instances be wreathed with strong flowers in the spring of 1900. In the meantime, opening the trees to the beneficent effects of sunshine and air will most probably make them more fruitful on the older wood, this improvement being observable next season. Inexperienced fruit growers ought to bear in mind that the harder they prune, the stronger will be the growth of wood and but little fruit be obtained. Prune, then, for wood or to frame out a tree, and be as sparing of the knife as possible or in reason afterwards. One great hindrance to reform in the direction of pruning garden trees is the near proximity of many of them to walks, and the short distances apart at which others are planted. If the trees are large and comparatively old, moving them farther back from the walks would be both a laborious and risky proceeding. But what if the trees do overhang walks? Or, again, what if they are not quite perfect in form owing to the necessity for shortening a few overhanging shoots? Where the trees are in plantations and likely to be too thick if allowed to develop naturally, I would unhesitatingly sacrifice a few of them, knowing that by so doing those reserved would produce far more fruit than double the number of badly pruned trees had previously done.

W. IGGULDEN.

Barker's Seedling Apple.—This variety, which seems to be also known as D. T. Fish and Cobbett's Fall Pippin, is really a robust form of Warner's King. I have seen it at Maiden Erlegh for several years past, and although Warner's King is grown there under similar conditions, Barker's Seedling is the better grower, best and most reliable cropper. The soil at Maiden Erlegh is stiff clay and not at all of the best description for Apples, but no tree could be healthier than is the one named. It has been remarked that the season seems favourable to Warner's King, but so much depends in trees on how well they cropped last year. Generally the best crops of the season are found on trees that bore indifferently last year.—A. D.

Perpetual Strawberries.—The paper M. Vilmorin read at the Royal Horticultural Society's meeting on Tuesday should receive wide publicity when it is published in the Royal Horticultural Society's journal, and possibly it may in that way give material stimulus to the cultivation of the "perpetual" strain. But the term thus used is rather a misnomer, as it leads to the assumption that the varieties referred to are both perpetual bearers and growers. In this country it is unlikely that the fruiting season would be longer than from June to October, both inclusive. But it seems to be a fact that if the plants be relieved of the first bloom, then they fruit all the more freely later. That practice, I believe, prevails somewhat at Gunnersbury House, where Mr. Hudson so successfully grows alpine from seed and gets a long season in the way mentioned. The general character of all the perpetual fruits shown the other day was small size, soft flesh, and absence of flavour. It was but needful to taste the nice fruits of Royal Sovereign, a second crop, sent by Mr. Hudson, and not, of course, equal to what the variety produces in its

proper season, to realise what a gulf there was in quality and flavour between the superb varieties we have become accustomed to and the best of the alpine or perpetuals. The variety shown by Mr. Laxton bore exact resemblance to the French St. Joseph in its habit of sending up bloom-trusses from runners.—A. D.

APPLE BLENHEIM ORANGE.

PROBABLY no Apple is so popular all round from the consumer's point of view as the Blenheim Orange. It is a large and handsome fruit of good quality and texture, and may be used either for cooking or for dessert about Christmas and new year's-tide, a period of the year when Apples are in great request. According to the Royal Horticultural Society's classification it is to be known as a dessert Apple, and with this I entirely agree, although full-grown



Apple Blenheim Orange. From a photograph sent by Mr. J. C. Tallack, Livermere Park, Bury St. Edmunds.

specimens are much beyond the size generally considered best for the dessert, but its very handsome proportions and appearance command admiration, and its flavour is very pleasant if not over-piquant. As a cooking Apple, except for baking whole, it seems to me to lack acidity, though this very fact commends it to many connoisseurs. From the grower's point of view it is not always satisfactory, for the tree, except when in bush form on the Paradise stock, takes many years to come into bearing, and even when it has commenced to bear it is by no means certain. As a close-pruned garden tree it is one of the worst of bearers, and in this form it is useless to plant it, because its nature of growth and fruit-bud formation make it imperative that to produce crops of fruit it shall be allowed freedom of growth. The most

satisfactory trees are those planted in cultivated orchards where they are allowed to spread themselves without limit in bush form and pruned simply to keep the branches thin. The tree when on the free stock requires a great amount of head room. The best and most fruitful trees under my charge have heads with a diameter of over 30 feet, and still spreading. They are kept thin as to branches, many of which are at the present time borne down to the ground with the weight of fruit. Trees of half the size and spread are growing on the Paradise stock and are equally fruitful, but under orchard culture the fruits are not so fine, though still large enough for dessert. Medium-sized Blenheims, such as these trees bear, are much in request. In some orchards the Blenheim cankers badly, but this is generally when the soil has been over-manured at planting time, or in cases where the soil is cold, wet, and undrained. In my own

case I apply no manure of any kind to the soil when planting, but rely entirely on top-feeding with wood ashes, gas-lime, and stable manure in a decayed state; the latter would not be used if the staple soil were heavier, but, being very light and sandy, the trees require extra support. The orchard being on grass land and the grasses mostly coarse, I have the coarsest tussocks grubbed out round the trees every winter as far as the feeding roots spread, not confining the process to a very limited area just round the stems, and apply the top-dressing in spring, adding a further mulch of long stable litter to the surface if thought requisite, which is, however, but seldom the case with the Blenheim on the free stock. Those who are not prepared to allow the trees plenty of head room had better leave this Apple out of their calculations when planting.

Like many other popular Apples, it is claimed for the Blenheim that there is more than one variety of it, and attempts have been made to describe them, but, as far as my experience goes, these so-called varieties of the Apple have turned out to be some totally distinct and generally inferior variety, though in some cases stock influences have contributed to a slight change of

J. C. TALLACK.

form or colouring.

Apple Langley Beauty.—This excellent new early Apple, shown so recently by Messrs. Jas. Veitch and Sons at the Drill Hall, and to which an award of merit was granted, is the product of one of Mr. Seden's crosses made in 1890, and so far has been the first to fruit. As a seedling it fruited early, and so much was it liked, that it was worked by budding, in the autumn of 1896, on the Paradise stock, several buds being inserted. This season, the second from the bud, each tree has carried fruits, showing that it is precocious as well as productive. The fruits have soft, pleasant white flesh, like one of the parents—Mr. Gladstone—but the other parent has somewhat imparted its flavour, as might be expected from so admirable a variety as Cox's Orange Pippin. The fruits colour moderately and have un-

doubted characteristics of both parents externally. As it ripens fully in the middle of August, it bids fair to become a popular market variety. —A. D.

MILDEW ON VINES.

I WILL feel greatly obliged to the editor of THE GARDEN by his informing me what I had better do with my Vines (ten in number), which have been attacked by mildew for the last three seasons, and which previously had been in fine bearing for many years. Last year about 200 bunches were cut down and burned with the rubbish. This year there are very few Grapes, and those are worthless, being covered with the dirty white dust and not able to swell at all. The foliage is not so much infested as usual. Will it be necessary to cut down and root up all the Vines and burn them, or can any remedy be applied instead? —J. H. F.

** Eradicating mildew from a vinery is not an easy matter, but it can be accomplished, and that, too, without the loss of a crop and at a comparatively trifling cost. The alternative suggested by "J. H. F.," viz., cutting down and rooting out the old Vines and starting afresh, might perhaps be the best in the end, but would prove laborious and costly. If the Vines are old, and in particular the borders have long since been exhausted, then it would be well to clear out both the Vines and the borders, doing this during the autumn and winter and planting young canes, say about March next year. As the letter conveys no information as to the age of Vines and borders, I cannot express an opinion upon the wisdom or otherwise of longer preserving them. I will, however, advise upon combating the mildew, and it can then be decided on the spot which line of treatment will best meet the case. Flowers of sulphur is the simplest, safest, and most effective remedy for mildew. Every leaf infested by the disease should be well coated with sulphur, doing this early in the morning or while yet the upper surface of the leaves is damp. In this extreme case, and in all other instances where the mildew has got the upper hand, the stems, laterals, and every leaf and bunch should be dusted freely with the sulphur. Sulphur will slightly disfigure the skins of white or yellow Grapes, but has no ill effect on the thicker-skinned black varieties, and when the bunches are cut all that is necessary to make them presentable is hold them a minute or so under a good pressure of clear water. The sulphur sticks to mildewed berries, but these would have been worthless in any case, the water cleaning the sound berries without injuring the bloom. Mildewed Vines ought to be further kept well supplied with moisture at the roots, and everything done to favour the growth of roots and the maturation of good fruiting wood for the following season. All leaves, prunings, and rubbish generally should, early in the winter, be cleared out and burnt, the woodwork either painted or thoroughly cleansed, the glass also washed, and the walls dressed with thin hot lime water, every possible lurking place of mildew germs being visited in turn. So potent are these disease germs, that a thorough cleansing of the house would be necessary even if it were decided to start afresh with a new border and young Vines. Hard pruning should not be resorted to if there is any doubt about the Vines producing plenty of bunches in the spring. Shorten to the second bud from the rod rather than study neatness at the risk of a light crop. After pruning, clear the rods of all loose bark, but avoid severe scraping, and then well dress them with Gishurst compound at the strength recommended on the box, and to which a handful of flowers of sulphur may be added with advantage. A very thick dressing formed by the addition of too much clay is not desirable, as only a thin dressing can be properly brushed into every crevice. After this work has been done, the border, if inside, should be taken in hand. Fork away and wheel out the surface soil down to the roots, well baring the uppermost layers of these, and then top-dress with a mode-

ately rich compost, one-half of which may be fresh loam and the rest made up of partially decayed horse-droppings, fine mortar rubbish, charred soil and wood ashes, and a good sprinkling of bone-meal. It is just possible inside borders may be found much too dry, in which case a thorough soaking of water, or, better still, liquid manure, should be applied after the roots are bared, and a few hours prior to top-dressing. Many old inside borders would be improved by this treatment even if the Vines are not infested by mildew. Where the roots are in an outside border and this has not been top-dressed recently, treat as advised in the case of inside borders, only deferring this important work till March or April. In May mulch either inside or outside borders with strawy manure and see that they never become very dry.

Not only have I done all just foreshadowed, but I have also generated sulphur fumes in a vinery while yet the mildew-infested Vines were at rest or leafless, and yet not succeeded in wholly getting rid of the disease. Those, therefore, who may follow the instructions I have so far given must not be certain of success at the first attempt. After the Vines are re-started into growth the ventilation ought to be attended to. No front air should be admitted much before the middle of May, and not then if easterly winds prevail, as currents of cold air playing on the tender leaves are very apt to start mildew. A close look-out should be kept for any traces of disease, and every spot of it seen be heavily coated with sulphur. It sometimes happens that the first signs of it are observable in the bunches soon after the berries are set. Very carefully remove every affected berry, and if necessary to prevent a further spread, heavily dust the bunches with flowers of sulphur. In this determined manner mildew ought to be stamped out without any further loss of crops. —W. IGGULDEN.

SUMMER PRUNING OF PEACHES AND NECTARINES.

MANY trees this season have not borne a heavy crop owing to the severe weather when the trees were in bloom, and with trees in such a condition the wood growth will be much stronger. It is not wise to encourage too much wood, thinking another season will set matters right and a heavy crop may be taken. Far better get the wood laid in thinly. Many do not wait till all the fruit has been cleared before laying in new shoots, as these, if left loose, twist about and get broken. It often happens that one can freely extend young trees; indeed, old ones, if there is wall space, will take a fresh lease of life. With low walls extension is not an easy matter, but by doing the pruning as soon as the fruits are cleared anyone can often assist trees in the position described by taking out poor branches from the base and laying in new vigorous wood. I have found that trees attended to at this season, removing old fruiting wood and any other that is not needed, are much better fruiters than those hard pruned in winter. More small or twiggy wood is needed with some of the American kinds, and I notice some are not strong growers here. One must not be too severe in pruning. On the other hand, I would advise giving the trees more space to allow the wood to ripen, as unless this is done the crop is poor, as the wood of American kinds needs more ripening than that of our own kinds. By giving the newly-made wood room the older foliage will not suffer. This if crowded is at times attacked by red spider, and the buds needed for next year suffer badly; indeed, they are so much weakened that they affect the fruit the next season. I have noted the importance of extension wherever it can be followed out, and on high walls there is plenty of space to do this. If it can be done yearly there will be no trouble with canker, as the Peach and Nectarine delight in free extension. It is the hard cutting back of trees in a young state that does so much mischief. Take young trees. What splendid growth these

will make in a season if given free play, and, once the tree is shaped, I fail to see the necessity of such hard cutting back, as I never found any difficulty in getting the base furnished if the tree was regulated at the start. I do not mean that all the wood made should be laid in, but I certainly would hesitate to cut hard back good wood. Far better get fruit from it another year to check grossness. By pruning now the trees are much benefited, as the buds swell up and are exposed. In a dry season with a lot of useless wood there is a great demand on the roots, and this should be avoided. G. WYTHES.

MANURING FRUIT TREES.

OUR fruit trees take a certain amount of plant food from the soil, which, if not returned to it in some form or other, will ultimately result in failure or inferior crops. Much, however, depends on the natural fertility of the land, as some formations are rich in all the constituents of plants in an available condition, while others are not, so that the number of years the soil will maintain a healthy growth will depend on its composition. The trees themselves will form the best guide as to requirements. Weak, wiry growth may be taken as an indication of a want of nitrogen; small flowers and fruits and soft wood, a lack of phosphorus; and bad colour in flowers and fruits and a disinclination to branch as a deficiency of potash. Of course, the conditions of growth, flowers and fruits are considerably influenced by seasons, moist ones favouring sappy wood, and hot, dry ones wood of a small and wiry character. There are many kinds of manures which we have to select from to supply any deficiency in the soil; our aim ought, nevertheless, to be the selection of the most economical, all things considered. By mentioning the most economical it might be inferred that the cheapest constituted such. This might and might not be the case. Basic slag is certainly the cheapest form in which phosphorus is obtainable, and decidedly the one to use on heavy soils rich in humus. But on sandy formations deficient in organic matter it would be simply time and money thrown away to apply it. The best phosphatic manure for a light sterile medium like this would be finely ground bone-meal, or this mixed with half its weight of superphosphate, either mineral or bone. These can be applied as they are, or incorporated with well-decomposed farmyard manure, when their solubility will be improved. Kainit is our cheapest source of potash, but the amount of common salt it contains renders it objectionable at certain seasons. If applied in autumn to early winter, when active growth in the trees ceases, there is time for the waterings essential during the dormant period to carry off the obnoxious ingredients. At any other time only a very limited quantity—1½ ozs. to the square yard—should be employed. Instead of utilising kainit to supply potash to growing crops, sulphate of potash would be a more desirable manure, and not by any means what would be termed expensive. In 1½ ozs. of this to the square yard there is no useless inimical constituent to be reckoned with. Ashes from the burned refuse heap are preferable to either, but they are not always available in sufficient quantity, and carbonate of potash and nitrate of potash are much too expensive for general use in fruit culture. Compounds rich in nitrogen are all expensive. To cause a temporary increase of vital energy, such as is necessary at the stoning period of fruits, or to finish a crop, nothing can be better than nitrate of soda. When a nitrogenous manure is necessary, and to have lasting properties as well as to give immediate results,

nitrate of soda mixed with sulphate of ammonia in equal parts, and applied at the rate of 1½ ozs. to the square yard, is the one to use while the roots are active. For winter and early spring, sulphate of ammonia alone is best, and can then be used up to a strength of 3 ozs. per square yard. The soil having an affinity for this chemical compound, it is not readily washed away like nitrate of soda. Rape dust is another valuable nitrogenous manure for out-of-door work. It, however, takes a considerable time to arrive at its serviceable stage, and should be mixed with a quantity of well-rotted organic matter to facilitate its decomposition, and then forked into the land. Treated in this manner, rape dust generates heat within the soil, and promotes healthy growth for years once its fertilising properties come into play. The best general manure for fruit crops is undoubtedly the drainings from the cow byre and farmyard manure heap. It can be employed to assist growth in the summer months and to enrich the soil in winter. The latter period is, nevertheless, the best time to apply this liquid manure, there being no sensitive root hairs then to demand consideration or to interfere with a liberal dressing. In fact, both for out and indoor work the dormant period is the proper time to provide a sufficient supply of plant food to meet the demands of crops grown upon it for twelve months at the least. The only thing to guard against is an excess of nitrogen. This element can be supplied at will, as already shown, and growth regulated by a discriminate use of it. Fertilisers can be employed with safety and in a much more concentrated form during the winter months than can be done when the trees are in an active state of growth. I have used farmyard liquid manure in an undiluted state to the borders of Vines, Peaches, and Figs indoors, and to the soil surrounding the roots of Pears, Plums, Apples, Apricots, Cherries, Gooseberries, Currants, and Raspberries out of doors, with marked success. This liquid manure, too, aids in dissolving the basic slag. Its only drawback is the tendency it has to form acid substances in the soil, but this can be overcome by a free use of lime in the growing season. For indoors, three applications of air-slaked lime will be ample to keep the borders sweet if immediately washed in after being put on. For outdoor fruit culture, including grass orchards, I have found one dressing of lime sufficient to maintain the soil in a desirable condition for fostering a healthy, fruitful growth in the trees and bushes that were heavily fed with farmyard liquid manure.

J. RIDDELL.

The Strawberry Raspberry.—As Professor Bailey, of America, has pronounced this plant, thus misleadingly named, to be *Rubus palmatus*, it is to be hoped that we shall hear no more of the above title. When previously presented to the fruit committee much doubt was expressed as to its being a hybrid fruit at all. It now proves to be a real species. The chief uses of this *Rubus*—why named *palmatus* it is hard to understand—would seem to be, if grown and fruited in pots, to make decorative material for the sideboard, where its fine red fruits may thus prove effective.—A. D.

Apples at Rougham Hall.—A choice and varied collection of Apples and other fruits has been planted here, and there is a very interesting lot of fruit already. One of the best-flavoured and freest-bearing of the earlier dessert kinds is Mr. Gladstone, a nice-looking Apple of sweet, juicy texture and handsome appearance. The best fruit is on small trees planted two years ago as maidens, and as one of the most useful kinds, coming in before Juneating and Devonshire Quarrenden, it should be freely planted. Of the latter, too, there are nice fruits and of the charac-

teristic bright red tint. That useful Apple Duchess of Oldenburg is well represented by fine fruit, but not quite so well coloured as yet as I should have expected. Doubtless it will be brighter as the season advances. I noticed some beautiful fruits of The Queen coming on, large, flattish round Apples already over a foot in circumference, while Tower of Glamis, Yorkshire Beauty, Peasgood's Nonsuch and others of this showy class are excellently represented. Coming to the choicer dessert kinds, Cox's Orange, Ribston and Fearn's Pippins are carrying full crops of fine fruit, while American Mother is already handsome.—H. R.

KITCHEN GARDEN.

WINTER TURNIPS.

At this season those who need the best quality Turnips in winter will need to prepare the soil. The latter end of August and the early part of September are good times to sow for winter supplies. Owing to drought, I have been obliged this year to draw rather deeper drills than usual. These I flood previous to sowing and do not make the surface quite level when covering the seed. This allows of future waterings going direct to the seedlings and not running away, as if the soil is light and the surface is quite flat it is difficult to retain moisture. In dry weather the Turnip fly attacks the young plants, but this may be got over by watering overhead with a rose water-pot rather late in the day and giving a light dressing of sulphur and soot after watering. With tender seedlings the dressing must be a light one, and it will be better to repeat the dose than use too much at a time. The Turnip in winter is not always looked upon favourably, but in a measure it is the fault of the grower, as seeds sown at midsummer or even in July will produce coarse roots that do not keep, and are not even good for flavouring. These are the roots that are not liked. There is no difficulty whatever in getting good produce by sowing more frequently and by studying variety. An open position is best. I have found roots in the open much superior to those in sheltered borders. My winter roots are sown on land that has had a crop of early Potatoes. A heavy dressing of manure is not needed; indeed, I omit annual manuring, and give the land a dressing of soot and a good fertiliser, this promoting a quick growth. Size is not needed, as roots the size of a cricket ball are large enough for storing. In heavy land, manure from forcing-pits, spent Mushroom manure, and burnt refuse may be used as a surface-dressing, and if the soil is at all poor it is an easy matter to give food on the surface during growth in the shape of nitrates or any other quick-acting fertiliser. Allow ample space between the rows, 18 inches being none too much.

As regards varieties, there is no lack of winter kinds. I would like to see more of the yellow-fleshed kinds grown for the season named, as these are the best keepers. In the north excellent Turnips may be had well into the spring. Golden Ball is one of the best. This is a very shapely root, and being very solid is a splendid keeper and of the best possible flavour. In my opinion it is superior in quality for use from December to April to the white-fleshed kinds so largely grown in this part of the country. I am not in favour of the flat section of Turnips for winter. Golden Ball, Orange Jelly, and others under diverse names are the best. Those who grow for the green tops in the spring will do well to study keeping properties, as though most kinds keep fairly well if sown

late in hard winters, there is a greater loss among the flat section. The purple-top varieties come next to the Yellow Globe, and Red Globe is difficult to beat as regards quality. This is largely grown in the south and is one of the best for winter, and sown now is just the size for storing. In warm soils and sheltered positions I would defer sowing till the early part of September, as with cool, moist nights growth is rapid once the plants have got through the initial stages. Red Globe keeps well in the store if not grown coarse. There never need be any hurry in storing; indeed, many do not store at all. Many market growers like the green-top kinds for winter supplies, but they are inclined to grow coarse in good garden soil. For many years the Chirk Castle was considered the best winter Turnip, but the quality of the Golden Ball section is so superior, that it is now much less grown.

I never put my roots under cover—I mean in a building—and I very much question if many roots are not spoiled by premature lifting. Far better sow specially for winter supplies, and store as late as possible in the open by putting in heaps if the weather be severe. For years I have found that drawing earth up over the roots in the rows where growing gives enough protection, and in the early spring when the tops begin to grow the roots may be pulled and placed in heaps under trees or a cool shed and covered over. If the soil is heavy I have drawn a couple of rows and got more earth for covering, but whatever shelter is given should be as simple as possible, as warmth starts the roots into growth and the flavour is spoiled. I prefer to leave a goodly portion of the roots in their growing quarters, covering these in severe weather with litter.

G. WYTHES.

Scarcity of good Cauliflowers.—The dry, hot weather has told upon the above vegetable, and in light, porous sorts it has been a difficult matter to keep the plants free of caterpillars, which so soon disfigure the heads. For years I have grown The Pearl for summer cutting, and it appears to stand heat and drought better than many others. It is not unlike Walcheren in build, but has a shorter stem, the leaves rather spreading. This is an advantage in seasons of drought, as the plant is protected. I find by growing between rows of tall Peas that the plants suffer less and give a good return. Though we are in the midst of the best season for vegetables there is none too much variety, and some kinds are none too plentiful owing to drought, so that the Cauliflowers come in most acceptable.—S. H. B.

Autumn Spinach.—In gardens in the early autumn Spinach often makes a gross growth at the start, and other vegetables being plentiful the growths are left undisturbed, with the result that the plants get very thick, and at the first touch of winter are liable to suffer. In market gardens plants suffer less, as they are grown more hardily from the start. This is a great gain with winter produce of any kind, as the plants in rich garden soil make such soft growth that they suffer badly. This may in a measure be prevented by severe thinning at the start, by allowing more space between the rows when sowing, and omitting large quantities of animal manures. I am aware manures are advised, but for any plant to stand over the winter much better results follow feeding from the surface early in the year just as new growth commences. I would advise early thinning when the plant is in a small state, as if left too late thinning loosens those plants left in the soil.—G. WYTHES.

Cardoons and drought.—The Cardoon is not a great favourite in many gardens, and doubtless this is owing to the small amount of favour it receives in the kitchen. I do not

advise the culture of Cardoons in any garden with a scarcity of water and of labour to apply the same, as unless there is ample attention in the way of food and moisture, the plants will bolt and are worthless. I admit they will produce an inferior kind of Globe Artichoke, but so poor that they are not worth cooking. Anyone who can give a regular system of irrigation can grow this vegetable well, but if the roots are at all dry there will be a poor return. It is surprising what large quantities of food and moisture these plants need, and in poor light soil or soil resting on gravel it is a difficult matter to prevent running in such a season as this. To be on the safe side I would advise sowing later and giving as cool quarters as possible.—G. W. S.

Dwarf French Beans and red spider.—This season has been one of the worst I have ever experienced for red spider in our light soil resting on gravel. It will be impossible to finish the crop unless more attention is paid the plants in the way of moisture and food, this adding greatly to labour. If moisture is given during the early part of the day it is lost in a few hours, and unless the plants are mulched between the rows I fear the crop will be poor and not of the best quality. Much may be done to keep the plants growing by damping overhead at night. If the foliage can be thoroughly damped over it will keep the plants growing, provided the pods are cleared regularly and not allowed to form seed. Early in the summer the plants made slow progress, owing to the cold winds and late frosts, and the cultivator had a difficulty in keeping them alive. The season as regards fruit and vegetables has been one of the most trying I have ever known. With August well advanced one does not often have to report severe attacks of red spider, as with cooler nights it does not spread.—S. M.

CUCUMBERS IN WINTER IN POTS.

It is not an easy matter to have a supply of Cucumbers from December to March. For many years I have grown winter Cucumbers, and I find pot plants more reliable than those planted out. I am aware that a greater weight of fruit may be cut from the plants in borders. I rely upon two lots of plants for the winter supply, sowing at this date (the latter part of August) or in September, and have one set of plants in pots. The other set is planted out in a small house. From these I cut very freely as soon as they can be fruited, and save those in pots for the latest supply. Many may think it unnecessary to have two sets of plants. I was of the same opinion till I had so many failures. There was no difficulty in getting a full crop of fruit well up to Christmas, but then the plants failed, and in a sunless, foggy atmosphere do not make the necessary new growths to produce fruits, and the root growth ceases if a goodly quantity of fruit has been cut in the earlier part of the winter. It is surprising what a quantity of fruit may be had from a plant in a small pot. Mine do not exceed 12 inches, and at the start the pots are only three-parts filled with soil, made rather firmer than is usually done for Cucumbers. The pots stand on a slate bed, but are not plunged, and a rather low temperature is given from the start. This allows of a more liberal one when the plants are needed to fruit freely; on the other hand, there is no starving, and food is given in the form of liquid manure and soot water. From the early part of November close stopping is carried out. As long as new wood is made there will be fruit, and when the plants are allowed to bear it is essential to fruit sparingly. The advantages of pot culture over beds consist in a better means of feeding during growth, and getting a more fruitful growth and of a sturdier nature. Feeding from the surface is an easy matter, as I build up turf round the sides of the pots for the new roots to run into. Plants treated thus do not need much food when first potted. I sow in small pots, at the same time placing the larger ones in position to allow the soil to be warmed through. The plants are put out early, and, being close to the glass, grow

sturdy. The soil given is fibrous loam, with a liberal portion of wood ashes, or, failing the latter, some fine old mortar rubble, with a small quantity of bone-meal. When fruits show in the early part of the plant's growth they are removed.

G. WYTHES.

WINTER ENDIVE.

THERE is no difficulty in having plenty of Endive from September to December, but a good supply from the last-named date to the end of March is even more valuable. It is useless to sow Endive unless the position where wintered is a sheltered one, and even then at times the plants will not stand unless given glass protection. Those who have fruit cases or cold frames are fortunate, as here they may winter the plants safely. I find that provided the heavy rainfall is guarded against there is less trouble, as I find Endive much harder than Lettuce, and if in a green state, not blanched, it is surprising what severe weather a good type of round-leaved Batavian will stand.

In the southern parts of the country I have sown the first week in September, and even later. Farther north it may be advisable to sow in August. Thin sowing at this date is important, as it is essential to get a sturdy plant. Generous treatment will give a better plant. The seed-bed should be well worked and given plenty of manure. The same remark applies to the quarter for planting out in, as the season of growth now is a short one. In sowing for winter I give plenty of space, as it is not unlikely that a portion of the plants may be left in the seed-bed. These will turn in much earlier than those transplanted. Even without lifting and housing under glass I have had the Batavian good well into April by covering with dry Bracken and protecting with boards. Our winters are so changeable that anyone who can lift at the end of October will find it much the best plan. In doing this the smaller plants should not be despised, as these will give the latest supply. Large plants, or those at all blanched, do not keep so well, and if wintered in the open this should be borne in mind. Many prefer the fine green curled variety, but unless glass protection can be given it is not hardy. The Moss curled is the tenderest of all. I have found that in lifting the more care that is taken to get a good ball of earth and roots the better. In transplanting for winter supplies it is well to move the seedlings before they get large, doing this in dull weather.

G. W.

Celeriac.—The plants will now be bulbing freely and will need ample supplies of water. Should the plants be dry at the root at this the critical period of their growth, they will fail to swell and the roots will be split, thus spoiling the shape and often causing a hardness that boiling fails to remove. The root must be succulent, and I would advise mulching between the rows in hot, dry seasons if the soil is light, and then, if copious supplies of liquid can be given, there will be fine roots of the best quality. Later roots will also need liberal culture, as these should be kept growing as long as possible. These will give a good supply well into the new year; indeed, till the end of March. The plants should never be dry at the root from the time of planting, as when stored in dry soil or in a room they shrivel badly, this affecting the flavour.—S. B.

Potatoes in light soil.—For some years I have noticed that those who plant such as the Ashleaf, Sharpe's Victor, and similar kinds as regards habit and crop suffer badly in such seasons as we have just experienced, as, owing to their shallow rooting, they have not sufficient strength to withstand drought. I am aware that light soil early in the season is most advantageous, as it favours earliness. On the other hand, if quantities are grown for later supplies it may be well to study the soil, as in a hot, dry season and with a very light soil the crop is not the most profitable, and it well repays the cultivator to grow

more robust varieties. The market grower depends largely upon those of the early Puritan or Rose type with a light soil, and gets a good return. If these are not liked (but they are of fine quality in dry seasons), there are such excellent kinds as Windsor Castle, Epicure, Ninety-fold, and others of the same type. These have more vigour, and consequently are more profitable in such seasons. In small gardens a great quantity of the larger growers now find favour, as the return is so much greater and the quality is not at all bad.—S. M.

Onions.—Although there has been a good deal of bolting off to flower on the part of winter, or rather autumn-sown Onions, yet have I found them to be almost everywhere wonderfully fine. This has been the case also from all sorts of soils—clay, loam, sand and chalk; but the finest, perhaps, come from stiff rather than light soils. The very finest to be seen anywhere—and I have during the past month seen hundreds of beds—was on stiff land in an allotment at Epsom, the variety being Ailsa Craig. These should continue to grow larger still, even after the Tripolis were pulled and over. All these winter Onions are grown wonderfully well in cottage gardens and on allotments, but they soon become useless after being ripe. Good white Spanish or Globe Onions are much better for the purpose. Spring-sown Onions are first-rate generally, but many neglect to thin them early and properly. They are rather later than usual, but in myriads of cases the bulb crop will, relative to the dimensions of the breadth, be a very heavy one. In Onion culture gardeners must not assume that they are invincible, for in cottage plots one often meets with surprisingly fine beds. Maggot has given very little trouble this season. I have not seen a bad bed anywhere. Now and then mildew has attacked the plants, and it is doubtful whether any application short of the Bordeaux mixture would do the plants much service. Now and then a few of the old underground or Potato Onion is seen, some persons liking their flavour. The large red Jersey or sometimes called Russian Shallot seems to have materially displaced the true old Shallot in gardens. Cottagers and allotment holders grow these bulbs universally, and wonderfully well, too. When a good clean stock of the true Shallot is seen the bulbs are always to be preferred to those of the coarser strain.—A. D.

GARDEN FLORA.

PLATE 1186.

HIMALAYAN RHODODENDRONS HARDY NEAR LONDON.

(WITH A COLOURED PLATE OF R. CAMPYLO-CARPUM.*)

THE climate of these islands, whilst it has many drawbacks from the gardener's point of view, presents at least this advantage: it admits of the cultivation of a greater variety of ornamental evergreen trees and shrubs than can be grown anywhere else in the same degrees of latitude, or even with the same mean temperature, either in Europe or America. Evergreens as a whole may be said to thrive best where there is a continual moistness in the atmosphere and an absence of any great extremes of heat and cold. These conditions are pretty general in the southern parts of the kingdom and near the coast even well to the north, but it is in the south-west of England, S. Wales, and in Ireland that they are most marked and constant. In these districts most of the Rhododendrons natives of the Himalaya succeed wonderfully well—better, perhaps, than any-

* Drawn for THE GARDEN by the Royal Gardens, Kew, by H. G. Moon. Lithographed and printed by J. L. Godart.



where else away from their own mountains. Further north and further inland the number of species that can be successfully grown in the open air is gradually reduced. The climate near London is not particularly favourable for tender evergreens, yet even here upwards of a dozen species can be grown provided some sheltered spot is allotted them. The publication of a plate of one of the most charming of them affords an opportunity of bringing the whole group into notice.

The greatest evils they have to contend with are the dry, cold winds from north and east that are so frequent in the early spring. It is one of the commonplaces of horticulture that a plant will bear a very low temperature in a still air much better than a higher one in a wind, but few plants emphasise its truth more than these Himalayan Rhododendrons. The first requisite, therefore, is a place well sheltered on the north and east sides. Another point to remember in the same connection is that some of them flower early in the year, when frosty nights followed by sunny mornings are frequent, and as the flowers will bear a few degrees of frost without injury provided they can thaw before the rays of the sun strike them, shelter on the eastern side is as necessary to keep off the early rays of the sun as it is to keep off wind. In other matters of cultivation, and in their likes and dislikes, these Rhododendrons are similar to the bulk of the great Heath family. They cannot be successfully grown in a soil that is strongly impregnated with lime, nor in one so poor or gravelly as to be always practically dry during spells of hot weather. A naturally peaty soil is no doubt best suited to them, but a good, fairly stiff loam, improved by mixing peat and decayed leaves, meets their requirements almost as well. Mulching with short manure during the summer helps them greatly, and where seed is not wanted the seed-vessels should be removed immediately the flowers are over. But, of course, these and similar details apply with equal force to all Rhododendrons.

R. ANTHOPOGON.—This is not a very striking or ornamental plant, but it is interesting as a dwarf and perfectly hardy Rhododendron from the high Himalaya. It extends from Nepal to Cashmere at elevations of 9-14,000 feet, and is amongst the last of the woody vegetation that is found at those levels. It grows from 1 foot to 2 feet in height and is of compact growth. The leaves are of a lively green, each about 1½ inches long, and densely covered on the lower surface with scales that ultimately assume a rusty red colour. The flowers are in small terminal clusters, each bloom about 1 inch in diameter and of a dull yellowish white.

R. ARBOREUM.—There is little to be said in favour of this species as a hardy shrub near London, although magnificent specimens are to be seen in Cornwall and South Wales. Five years ago I remember especially well seeing a noble specimen in Colonel Tremayne's garden at Carclew. This was a tree 25 feet or 30 feet (perhaps more) high, with a trunk 4 feet in circumference. Like some other Rhododendrons from the Himalaya, this varies greatly, and in the earlier days several species were made of what are now all united under the one name. There is one set whose leaves are quite silvery and shining beneath, whilst another has the under surface more or less of a rusty red. The flowers vary in colour also, from rosy purple to a rich blood-red. It is the silvery-leaved, pure red form that botanists consider typical, but this unfortunately is not hardy away from the south-west. It has, however, made its influence very apparent in the garden race of Rhododendrons, for most of the true red (as distinguished from the purple) varieties derive their bright colour from this species. It is the varieties of *R. arboreum* whose leaves are reddish beneath that are evidently the

hardest. The only one we grow outside is the variety *Campbellia*, which has this type of foliage and rosy purple flowers. It has a healthy appearance and never suffers from cold, but it grows very slowly and does not flower with freedom. It is of interest as the hardest of the beautiful "arboreum" group.

R. CAMPANULATUM.—In colour this species is not so striking as are some of the others—not so brilliant in colour, for instance, as *fulgens* or *Thomsoni*—but it is as hardy as, and on the whole thrives better than, any of the Himalayan species. It is a wide-spreading bush rarely more than 6 feet to 9 feet high, but nearly always more in diameter than it is in height. Its leaves are covered beneath with a bright rusty red felt-like substance. In the ordinary form the flowers are of a light purple and appear in medium-sized, compact trusses. The flowers are bell-shaped, as the name implies, and are at their best, as a rule, about mid-April. This plant is very variable. At Kew there is a specimen with pure white flowers—a lovely plant—and another whose flowers, although purple, are of a shade that is nearer blue than perhaps any Rhododendron in cultivation. The leaves also vary in shape, and the bracts that appear with the new growths in spring, although usually green, are sometimes as crimson as those of *R. fulgens*. This is one of the older species, having been introduced in 1825.

R. CAMPYLOCARPUM.—The accompanying plate, reproduced from a picture made by Mr. Moon at Kew in May last, gives a charming and characteristic representation of a Rhododendron which has hitherto obtained but scant notice from either artists or horticulturists. It is, nevertheless, one of the loveliest as well as one of the most distinct of its kind. Its greatest merit is in the colour of its flowers, which are of a very pretty shade of pale yellow. The absence from amongst the garden race of Rhododendrons (excluding *Azaleas*) of a kind with yellow flowers has often been commented on and regretted. There are one or two more species in cultivation with flowers of this colour, but *R. campylocarpum* is the only one that can be said to possess the qualities likely to secure its progeny a place among choice Rhododendrons. Considering what has been done by the hybridiser with the red-flowered *R. arboreum*, how much of its glorious colour has been retained and its tenderness eliminated (in such varieties, for instance, as *Michael Waterer*), there seems to be no reason why *R. campylocarpum*, subjected to the same care and skill, should not eventually produce a race with flowers of the much desired colour. At Kew this Rhododendron is a dwarf rounded bush, not more than 3 feet high at present, and of very neat and compact habit. Its leaves are each 2 inches to 3 inches long, of a lustrous dark green above and glaucous beneath. It commences to flower about the beginning of April and lasts well into May. This year the plants were completely covered with bloom, and were conspicuous 200 yards away.

R. CILIATUM.—Where it is suitably placed this dwarf Rhododendron makes a charming bush. In the open air near London I have not seen it more than 3 feet high, but in Cornwall plants twice as high may be seen. The foliage is quite distinct, being of a paler green than that of most Rhododendrons, and densely covered with bristly hairs, especially when the leaves are young. Whilst the flowers remain in the bud state, and even for a short time after they have expanded, they are of a lovely shade of rose, but afterwards they become almost or quite pure white. Although the species itself is rarely seen outside botanic gardens, it is the parent of a group of well-known and valuable hybrids, amongst which are *præcox* and *Rosy Bell*.

R. CINNABARINUM.—There is a very distinct group of Rhododendrons from the Himalaya, the various forms of which were originally known under the three names, *cinnabarinum*, *Roylei*, and *blanfordiflorum*. They are characterised by long-tubed flowers, almost exactly like *Lapagerias* in shape, and which vary in colour and

size, but the differences have not been considered sufficiently marked to justify the retention of the old specific names, especially as intermediate forms occur, so now the name here given is made to include the whole group. The plants attain near London a height of from 6 feet to 8 feet, possibly considerably more in milder districts. The leaves are each from 1½ inches to 3 inches long, glaucous above, especially when young, and ultimately reddish brown beneath. The flowers are each 1½ inches to 2 inches long, of a cinnabar-red in the type, but frequently tinged with yellow and sometimes with green. It flowers during May and June.

R. FULGENS.—There is plenty of Rhododendrons to be seen in gardens bearing this name, but very few of the true Himalayan species to which it rightly belongs. *R. campanulatum* is the substitute as a rule, the two species being, indeed, scarcely distinguishable in a small state and not in flower. When old, *R. fulgens* appears apt to become rather gaunt in habit; such, at least, is its character at Kew, quite different from the low, compact growth of *R. campanulatum*. With regard to its flowers, it is unrivalled among Rhododendrons hardy in the London district. They are produced towards the end of March in close, rounded trusses, each 3 inches to 4 inches across, and are of a rich blood-red. The leaves are each about 4 inches long and covered beneath with a thick felt, which eventually assumes a warm, rusty red colour. Another ornamental feature is made by the crimson bracts that accompany the young growths in spring. In the Rhododendron dell at Kew—a well-sheltered spot—this species has never suffered during the hardest winters. Its flowers are occasionally damaged by frost, but when fully in bloom and at its best it is one of the most wonderful of hardy shrubs. In the gardens of Cornwall and Wales *R. arboreum* is probably a superior plant, but here, near London, we are denied the privilege of growing the true crimson-flowered form of that species in the open air.

R. GLAUCUM.—This is one of Sir Joseph Hooker's introductions, seeds of it having been sent to Kew by him in 1850. The plants thus raised flowered in April, 1853. This is one of the dwarf species, rarely growing more than 2 feet in height even on its native mountains, where it lives at altitudes of 10,000 feet to 12,000 feet. The whole plant has a strong, rather acrid odour. The leaves are each 2 inches to 4 inches long, of a dark, dull green above and conspicuously glaucous white beneath. The flowers appear at the ends of the shoots in April and May half-a-dozen or so together. Each one is about 1½ inches across and of a deep purplish red. It is a plant of botanical rather than horticultural interest.

R. LEPIDOTUM.—This is a very pretty, distinct, and rather remarkable Rhododendron, suitable for growing in the rock garden, but unfortunately a very rare plant at the present time. According to Sir J. Hooker, it abounds on the lofty interior ranges of the Nepal and Sikkim Himalaya, at from 8000 feet to 16,000 feet above sea-level. It grows from 1 foot to 4 feet high, and has pale glaucous green leaves averaging 1 inch in length. The flowers are few in the cluster; each one is about 1 inch across and distinct among these dwarf species for the unusual length of the stalks, which measure sometimes 2 inches in length. The corolla is flat and spreading and varies a good deal in colour; typically it is a rosy-purple, but sometimes deepens into a maroon-purple. Hooker mentions varieties with golden-yellow flowers, and in the variety *chloranthum* they are described as being greenish-yellow. I have never seen these yellow-flowered varieties.

R. NIVEUM.—This species is a very uncommon one in gardens, and it is, indeed, one of those that can best be spared, being more remarkable for its foliage than for its flowers. Its leaves are amongst the largest found in evergreen hardy shrubs, some of the largest being 9 inches long by 3 inches wide. As a rule, however, they are not more than two-thirds that size. When young they are covered on both sur-

faces with a snowy white felt, to which, doubtless, the specific name refers; eventually this felt disappears from the upper surface, but remains on the lower one, turning a pale brown. Considering the size of the leaves and of the plant itself, the flower-trusses are very small. They are usually each some 3 inches to 4 inches in diameter, with the bell-shaped blossoms compactly arranged. The colour is a shade of purplish lilac, very uncommon among Rhododendrons. The species has been grown outside for many years at Kew, and has proved to be one of the hardiest.

R. THOMSONI.—Although this species grows and flowers without protection near London, it has not proved itself altogether satisfactory. It seems to require a slightly warmer climate, for in Cornwall there are magnificent specimens. Here its branches often die back without any apparent cause, leaving the plants thin and gaunt, and not abundantly provided with foliage. It requires, even more than the others, a moist, well sheltered nook. The leaves are each 2 inches to 4 inches long, very deep green above, but glaucous beneath. Its flowers appear during April in loose trusses and are of a very rich blood-red. The individual blossom is rather flat and widely expanded, measuring about 3 inches across. A distinct feature of the flower is the large cup-shaped calyx, which measures three-quarters of an inch across. The species has been used by hybridisers, though not to a great extent. Its progeny, of which the brilliantly coloured, early flowering *Ascot Brilliant* is one, can generally be recognised by their having inherited the large calyx just alluded to. W. J. B.

THE WEEK'S WORK.

FRUIT CULTURE UNDER GLASS.

VINES.—EARLY FORCED HOUSES.—The Vines in the earliest houses should now be quietly going to rest. It is not a good sign when such as these make late growths, yet it is not safe to keep the roots on the dry side so as to perceptibly check this propensity. It is better to pinch out the sappy shoots rather than keep the borders too much on the dry side. If so be the growth has ceased, the partial pruning may be proceeded with, shortening the spur growths to within about 1 foot or so of their length. Do not remove any leaves below this pruning for the present, but endeavour to keep them in as healthy a condition as possible until they are fully matured, syringing if needs be to keep down red spider or thrips, both of which may be troublesome after the hot weather. If the wood does not look sufficiently ripened, keep a little warmth in the pipes with an abundance of ventilation constantly on. Do not let these or any other vineries be overcrowded with plants. Where this is done the houses are not really vineries at all, but plant-houses in which vines are also grown, being only deemed of secondary importance. Let second early and other houses from which the fruit is all cut be moderately pruned—i.e., take out superfluous shoots in the form of laterals so as to admit all the light and air possible both for the ripening of the wood and also of the foliage. The previous hint as to keeping the pipes a little warm will also apply in every case where the wood is not sufficiently ripened. Keep a sharp look out for the slightest trace of mildew upon the shoots or leaves, and even with no fruit upon the Vines do not hesitate to sulphur the pipes in the customary manner. If the germs be there now the possibility of an attack another season upon the bunches will not be at all improbable, even under rational treatment.

LATER HOUSES WITH RIPE FRUIT.—These should now be kept cool, being well ventilated during the day and nearly closed at night, but not quite if air can be safely left on, as the early accumulation of moisture in the morning is soon precipitated upon the berries as the temperature rises. Do not keep any heat in the pipes at night, unless

it be when the weather is damp or the days be cloudy; but rather at such times maintain a little warmth during the day, by which means the atmosphere will be rendered more buoyant. Keep a close watch for any symptoms of decay in the berries, removing such with the greatest possible care. Should there be any shanked berries, let these also be cut out at once. When a few berries have been noted in one bunch, make a point of using it at the first opportunity. If the Grapes have to be packed to send any distance, select those bunches which are the most compact. Should any have to be sent extra long distances at this season, when such Grapes as *Alnwick Seedling* are ripe, this variety will be found to travel very well, keeping also in good condition when cut for some few days.

LATEST HOUSES.—If by any chance the crop in these is not by this time fairly well advanced in the colouring stage, a steady and genial warmth should be kept in the pipes, so that 65° at least is recorded at nightfall and a few degrees higher if possible. Ventilate these freely during the day, and do not close until the sun has receded sufficiently not to make any perceptible rise in the temperature. All late Grapes should under good management be fully coloured by the end of this month, but it must not be inferred that they are then fit for use. Such kinds as *Lady Downe's Seedling*, *Gros Guillaume*, *Mrs. Pince*, and *Gros Colman* all improve in flavour by hanging for even months later. Where *Black Hamburg*, *Muscat Hamburg*, and *Madresfield Court* are grown no other black Grape should be cut as long as the supply of these kinds is not exhausted. Be cautious when dealing with *Muscats* not to fire too much when the fruit is getting ripe, for if this be then continued there is the possibility of shrivelling taking place. *Lady Downe's*, be it noted, is also liable to this same failing if fired too long and continuously. Do not allow the foliage to become too dense and thick in these late houses, otherwise there will be an accumulation of moisture, which may occasion mischief. Should there be any over-abundance of laterals, it will be advisable to remove such at a few short intervals, reducing all of these steadily down until none but ripened wood is left by the end of the current month. If inside borders have to be dealt with, see that they are now quite safe as regards moisture, watering at once if needs be rather than in a few weeks' time, applying also a mulch of clean litter, which will act beneficially in two ways, viz., by preventing the surface soil from becoming too dry and also by preventing any dust arising to settle upon the bunches.

YOUNG VINES AND THOSE NEWLY PLANTED THIS SEASON.—The former of these should not now be encouraged to continue in active growth. By means of more liberal ventilation this tendency may be checked without cooling the houses down too rapidly. Still make it a practice to syringe these young Vines daily, and still bear in mind the previous remarks as to the spider, which for the sake of distinguishing it from the red kind we will call the white, which is appropriate, as these very minute creatures are apparently white. It is a most insidious pest and may very easily be detected by the leaves dropping from the points of the shoots, while those still hanging on assume a pale lustrous brown shade. Note soot as the remedy for this pest, as alluded to on page 43 of the present volume (July 16). Where the Vines of two or three years' growth have become dense in shoots, not being as yet treated in an orthodox fashion, some of the sappy wood may be safely removed. This will not occur so much, however, where the Vines have been treated as suggested by allowing the lateral shoots to hang down indiscriminately below the wires, by which means any disposition to make a late growth will be held in check to some extent. Younger Vines, as those of this year's planting, may possibly stand in need of warmth still to complete a tolerably good growth for the first season. Sometimes these are not planted any too early, hence the need of making up for loss of time in some

small degree. See that these young Vines of varied stages do not suffer for want of water; there is just the possibility of this happening, as we know by past experience in made-up borders that are well drained.

VINES IN POTS FOR EARLY FORCING.—These ought now to be well matured, the wood hard, and of a nutty-brown tint, with the dormant buds well swelled up and the foliage of the main rods thick and leathery, already assuming that tint one likes to see. Do not allow anything beyond the first lateral to remain any longer; these even may be cut away close to the main stem in a few weeks' time. Preferably the place to finally ripen these canes is near the glass in well-ventilated houses; failing this, let them be exposed outside in the sunniest and warmest position possible, but do not in either case allow these young Vines to become dry at the roots, protecting the pots from getting hot and dry by means of short litter. Young Vines of this season's raising should now be cooled down so as to check growth in due course.

OUTSIDE BORDERS.—With the long continuance of drought in some parts of the country, it may be necessary to still water these borders, more especially if they happen to be raised ones, or otherwise, such as if of shallow formation. Do not assume that because the crop is all cut no watering is needed; quite the reverse is the case, for, whilst watering such as these now, an excellent opportunity is afforded of giving a dressing of artificial manure, if such be required. It will be productive of better results than if left until the spring wherever forcing is practised. If applied now, it should be lightly pricked into the surface-soil, the border afterwards being well watered. In no case is a heavy mulching desirable now; rather let the sun's influence work its beneficial course upon the soil. Do not, unless quite compelled to do so, water borders with ripe Grapes upon the Vines now. HORTUS.

KITCHEN GARDEN.

EARLY MUSHROOMS.—A full supply of Mushrooms may be needed in the early autumn, and in a previous note I advised the cleansing of the Mushroom house, as woodlice are difficult to get rid of when the beds are made, so that a thorough cleansing previous to the making of new beds is important. There may be a difficulty in the supply of manure, and my advice is to make up small beds in preference to larger ones. Materials must be collected regularly for the making of beds, and, if there is room, no one will make a mistake in making a bed every month or six weeks, as, though beds last a longer time than the period named, much depends upon the house, as if the latter is at all warm the beds are sooner over. The best Mushroom houses are underground, as here there is a regular temperature. Artificial heat is not needed, as the produce is more succulent and the season longer. Now is a good time to get a fresh supply of spawn, and, though the last season's supply may be of good quality, I prefer to mix a portion of new spawn and thus avoid failures. In the preparation of materials it is well at this season of the year to make smaller heaps of manure when drying, as large quantities heat so rapidly that it may be spoiled before it is observed. Manure if overheated prevents the spawn running freely. The material needs turning over more frequently now than in the winter. I would at this season of the year dispense entirely with fire-heat, as much better results will follow a low, even temperature. Though I am in favour of spawning the beds before the manure loses too much warmth, it is quite safe when below 100° and the temperature is falling if the beds are shallow as advised above. In covering the surface it is well to use soil of an adhesive nature, as the firmer the surface the better the spawn runs. Beds made on the floor are far the best till the nights are cooler, and the house may be kept at a low, even temperature. More moisture may be given in houses at the back of fruit houses, as these dry sooner than those underground. If the spawn is very

dry or at all old it is well to soak it for a few hours or place it on the top of the beds two days before using. By so doing there will be a considerable saving of time, as the spawn will start much sooner.

SPINACH.—In the southern part of the country I always make a liberal sowing of Spinach in the latter part of August or early in September, as though this date would be full late in the north in heavy soil, it often fills in a void, as if the spring be a late one this late sowing lasts well without running to seed before the spring-sown turns in. Spinach to do well, I find, does not need coddling. One very often sees a good crop in open fields exposed to all weathers. This being dwarf and having a thick leafage will be unhurt, whereas in a sheltered garden with a soft growth the produce is poor. With field culture one may vary the soil and position. Few vegetables need change of soil more than Spinach, as it is bound to fail if wireworm and other pests are rampant. I find more difficulty with winter Spinach sown at the usual time early in August than at any other period of the year. Almost anyone can grow spring-sown Spinach, as the plants are so short a time in the soil, the growing conditions, too, being more favourable. Spinach sown now will be on the land quite eight months, and the soil must be prepared to make sure of a crop. Anyone who may have a recently-made garden will think it just the thing for this crop, but if the land is turf dug in, beware of wireworm, as the old turf is the home of the pest. Winter Spinach does not need large quantities of manure. I am obliged to give land for such crops as this dressings of gaslime, which should, if quite fresh, be spread on the surface for a few days and be finely broken up. In a light soil it is essential to have a firm root-hold, as then growth is sturdier. I tread or roll recently dug land previous to sowing. I also give ample space between the rows; 18 inches is none too much. For present sowing Carter or a good strain of Victoria is the best. I do not like the old prickly form; it runs too quickly in the early spring. The large Viroflay is also an excellent winter Spinach. At one time the round-leaved varieties were thought to be less hardy than others, but such is not the case. The earlier-sown Spinach should now be well thinned out to give large leaves for an early autumn supply.

CARDOONS.—This year Cardoons have been a difficult crop to keep going, and in light soil I fear, unless the trenches were flooded at least once a week, the plants in many cases will be of little value. The Cardoon unless well attended to quickly fails, and even in seasons when we get an ordinary rainfall the plants do not thrive unless well fed and watered. Plants in full growth will take unlimited supplies of liquid manure; indeed, twice a week will be none too much. Failing liquid, such aids as guano, fish manure, and light dressings of nitrate of soda will be necessary. It will be well to go over the plants before feeding, removing any useless or sucker growths, and the long leaf-stalks if needed may be given light supports to prevent breakage. I do not advise earthing up yet unless very early produce is needed. Far better secure a full growth before blanching. Plants that have run are of little use, and may be thrown away to give others room.

CELERIAC.—This vegetable is not grown nearly so much as it should be. At this season the plants to be good will need extra attention. Moisture and food will now be necessary to secure large roots. In hot, dry weather and in light soil Celeriac makes poor progress unless given assistance. In such land I find it best grown in shallow trenches, somewhat like Celery. Celeriac should never be dry in the growing season, and there need be no fear of giving excess of food in the shape of liquid manure if not of too strong a nature. The best plants I ever grew were in land I could irrigate weekly, and the quality was far superior to that grown in dry soil. Much the same food may be given here as advised for Cardoons if water be given freely afterwards. It will be well to go over the rows, removing sucker growths, as these rob the plants.

LATE PEAS.—In light porous soils this is a difficult crop to keep going in such seasons as we have had this summer. Heat and drought are the greatest evils, and when we have a genial rainfall mildew often takes possession of the plants and growth ceases. The dwarfier section, such as are sown for earliest supplies, are more reliable than the taller ones, such as Ne Plus Ultra and British Queen, though these latter in the northern parts of the country, with a cooler atmosphere and more moisture, are difficult to beat, as they crop so well and the quality cannot be beaten. With little rainfall, mulching in light soils has been a necessity, and I find the plant is much stronger when waterings can be given late in the day, as if treated thus the haulm makes a clean growth, free of spider, and is much stronger. Liquid manure given once a week will do much to keep the crop going, and should mildew be troublesome, I find watering overhead with sulphur and fresh lime will arrest its progress. Any varieties which were sown too thick for very late supplies will benefit by being thinned if the weathery is showery, as if too thick the haulm gets mildewed badly, and if once this gains headway the crop is lost. The dwarf kinds, such as May Queen and Chelsea Gem, are best for latest supplies.

DWARF BEANS.—Those who have frames to spare may turn them to good account by sowing one of the dwarfest kinds for a supply after those in the open air are past. Those, if given liberal treatment, may be kept going till the autumn is well advanced. I sow Syon House, Mohawk, and Ne Plus Ultra for the latest crop, but this season I am trying Early Favourite, a dwarf-growing kind with a large pod. The soil must be fairly rich, as the season of growth is short. If the frames at the present moment are not vacant, I have sown in pots and planted out the third week in September with every success. For latest supplies it is well to have a little artificial heat, as then the pods set more freely in dull, wet weather. Hard forcing should not be resorted to, as the haulm will be stronger grown under more natural conditions. Plants sown on south borders with a view to late cropping will need supplies of food and moisture to ward off attacks of red spider. I water overhead freely late in the day. S. M.

STOVE AND GREENHOUSE.

ERYTHRINA CRISTA-GALLI.

Few plants are so bright and showy as the Coral Root, as this has been called. When grown in pots and brought along steadily, the stems on medium-sized plants attain to a height of about 30 inches, and in this state it is charming for conservatory decoration, being almost as showy as Cannas, and much prettier in the foliage. The flowers appear in terminal racemes, and are bright red and very singular in shape. The stems are herbaceous, leafy all the way up, and more or less covered with small prickles. These spring from a large bole or root-stock, and where propagation in quantity is desired, a few of these may be placed in a gentle warmth in early spring. The shoots soon appear above ground, and when an inch or two of growth is made they may be taken off low down and dibbled in around the edges of 6-inch pots. With a gentle bottom heat they soon strike in sandy compost, and may be potted on and grown as well as possible during the first season, when they make nice strong plants for the next. Old plants may be grown with ease in quite a cool greenhouse. If received as dry roots they must be moistened a little, but not kept wet until the growths have made considerable progress, when an increased supply will be necessary. It flowers at various times, according to when the plants are started, and a succession may be kept up from late in May until September by bringing them on a few at a time as required. After the flowers are over, the foliage soon begins to lose colour, and drops. As

this occurs, gradually diminish the water supply again and keep the plants in a light, cool position. They may be placed outside with advantage while going to rest, and allowed almost to take care of themselves.

In sheltered gardens this *Erythrina* is sometimes planted out, and when established it flowers abundantly in hot, dry seasons, looking especially well if backed up by suitable greenery. In winter a good thickness of dry leaves should be placed over the root stocks, for the root stocks may be taken up and stored in cool greenhouses, though this frequent disturbance is not conducive to free growth or flowering. In Hyde Park, not far from the Stanhope Gate, there is a nice bed of it, and when massed like this it makes a very fine show for a considerable time.

Utricularia montana.—The flowers of this species are similar in shape to those of *U. Endresi*, but they are pure white on the blade with a yellow centre. It is rather stronger-growing if anything than its rosy coloured compeer and equally beautiful when well grown and flowered. After being open some time the flowers fade to a rosy tinge. It is best grown in baskets suspended from the roof of a moist, warm house, the compost consisting of Sphagnum and peat with abundance of charcoal or broken crocks both for drainage and mixing with the compost. It is a very thirsty subject, and must never be allowed to suffer from want of water. Even in winter it must not be dried.

Aristolochia tricaudata.—This is a pretty species of Birthwort, far more worthy of cultivation than many that are more grown. The plant is of medium habit, with leaves each about 6 inches long and light green. The flowers at first sight remind one of those of a large *Masdevallia* of the Chimara section, though when looking at it closely there is none of the marvellous colouring as seen in the Orchid, the colour, in fact, being a dark purple-brown. In a large stove or plant house where there are pillars or tie bars to cover, this plant may well have a place. The foliage will always be ornamental, and the three-tailed flowers that suggested the specific name would have a very distinct and effective appearance. It is easily grown in a fairly light and rich description of compost, but may be kept a little pinched for pot room unless a lot of space is required to be covered. It is a native of Mexico, and was introduced about 1866.

Lagerstromia indica.—On a recent visit to Kew two fine plants of this in full flower in the Mexican house seemed to attract a greater share of attention than anything else there. It forms a freely-branched tree-like shrub that reaches a height of 6 feet to 10 feet, and is clothed with small deep green ovate leaves. The flowers, which are of a particularly attractive shade of rich pink, are borne in terminal panicles, and so freely are they produced that the entire plant is quite a mass of bloom. The petals being very much crisped, the clusters of flowers have a peculiarly loose and uncommon appearance. Close by was a fine bush of the double pink Oleander, also in full flower, thus showing the merits of another good but neglected plant. Both of these subjects may be grown in large pots or tubs, as the Orange is sometimes treated, and with a little care and attention will flower well every year. In each case a thorough ripening of the wood is necessary to a good display of bloom.—H. P.

Calceolaria alba.—There is a group of good-flowering examples of this *Calceolaria* in the temperate house at Kew. The plants in question are neat, bushy specimens, about 18 inches high, clothed with their peculiarly narrow serrate leaves, while the pure white blossoms are plentifully borne on the upper parts of the shoots. *Calceolaria alba* was introduced from Chili in 1844, but it appears to have been soon lost. A few years ago, however, it was again brought to this country and soon obtained many admirers. A coloured plate of it was given in *THE GARDEN*, January 23 of last year. This *Calceolaria* is less

robust in constitution than many other species, yet at the same time it is not at all a difficult subject to cultivate successfully. Cuttings of the half-ripened shoots may be struck without difficulty, while seeds may also at times be obtained. A mixture of loam and peat or well-decayed leaf mould with sand will suit it well. Like many other plants from the same region, it succeeds best in a fairly cool, moist atmosphere, and it can be well grown in a cold frame where not too much exposed to the sun.—H. P.

Acalypha Macfeeana.—When well grown this is one of the finest plants we have for decoration, the large leaves being of a rich, almost crimson, hue. It is not difficult to grow, but is much inclined to run out of character, the colours being imperfect and the leaves much lacerated and contorted. I think this latter defect is caused to some extent by growing it in too high a temperature, for I find plants grown this season in an intermediate house have retained the broad heart-shaped leaves and have also coloured well. There is always some variation in colour. Cuttings should be selected from the best coloured, strong shoots; they root freely in the ordinary propagating pit and soon make good plants. They should be potted in a good rough compost, consisting chiefly of loam and manure, and plenty of drainage. Like many other fine-foliaged plants, they delight in sunshine, and it is only when well exposed that the rich crimson hue is fully developed. Being of rapid growth, it is only when a succession of young plants is kept up by propagating at intervals during the year that useful-sized plants can be always at hand.—A.

Crassulas.—Presuming that "Reader" refers to *C. coccinea* which has been seen in Covent Garden in such fine form this season, it is now too late to propagate for flowering next year, but cuttings put in now will make good plants for growing on to flower the following season. They will root freely in any light sandy soil. After taking them off, a few bottom leaves should be removed and the cuttings laid on a dry shelf for a time, or until all moisture at the base has dried up. They may then be put into pots or pans and kept quite dry for a few days. In fact, they require very little water until well established. In potting them on, a good rich loamy compost should be used. The plants should be grown on in a greenhouse temperature and fully exposed to the sun. During the summer they do better out of doors or in a pit where they can be protected from heavy rains. Where strong cuttings can be had early in the spring they will flower the following summer, and if about three or four are grown together in the same pot they make a good show. There are several varieties; the one mostly grown for market now is what I first knew as *Phoenix*, the true *coccinea* being of dwarfier habit and not so deep in colour. There are also some hybrid varieties sent out by V. Lemoine a few years ago; these are of dwarf habit and branch out, forming bushy, compact plants and flower very freely. The colours vary from almost pure white to deep red. They come into flower earlier in the season than *coccinea*, and are well worthy of attention.—A.

NOTES AND QUESTIONS.—STOVE.

Canna aurea.—Among the innumerable varieties of large-flowering Cannas that we now have in our gardens are many that closely resemble each other, so that a rigid selection is absolutely necessary. The variety *aurea*, above mentioned, stands out as quite distinct from most of its associates, the flowers being of a clear self-yellow, very different from the spotted, banded, and edged flowers of the other kinds, and the plain reds and scarlets, of which we have so many. The foliage of the variety *aurea* is green, without any tinge of bronze.—H. P.

Saintpaulia ionantha.—This pretty little plant should eventually become as popular as the hybrids of *Streptocarpus*. It is very elegant, and I saw it used with good effect the other day at Culford, Bury St. Edmunds, plants in 6-inch pots being arranged near the edges of the stages

in a cool house with small Ferns and fine-foliaged plants. It requires careful culture in the earlier stages, but when once strong and well established it gives little trouble and flowers for months on end.—H. R.

Anthurium Lawrenceæ.—I lately noted an immense specimen of this rare and lovely *Anthurium* in flower. I did not measure the spathes, but they must have been at least 6 inches across. It is not only the size that appeals to me; it is the lovely purity of the white, so different from the dirty whites and dull purples or reds so frequently exhibited. This was one of the very finest of the fine group staged at the Drill Hall early in the present year by Sir Trevor Lawrence. It is of the true *Andreanum* shape, and I think the finest variety at present in cultivation.

Calceolaria Burbidgei.—*Calceolaria Burbidgei* was raised nearly twenty years ago in the College Botanic Garden, Dublin, by fertilising the flowers of the distinct *C. deflexa*, or *fuchsifolia*, with pollen from the strong-growing *C. Pavoni*.



Lilium giganteum in Mr. J. R. M. Camm's garden at Burnham Grange, Bournemouth.

Both species are natives of Peru. The hybrid thus obtained is a vigorous-growing plant, that if planted out or grown in a large pot will form quite a bush 6 feet or more in height, that during the latter part of the summer and well on into the autumn will yield considerable numbers of its pale yellow blossoms. Some fine plants of this *Calceolaria* 6 feet high or thereabouts are very attractive just now in No. 4 greenhouse at Kew.—T.

Begonia coccinea.—This is not at all an uncommon *Begonia* in gardens, but unless liberally treated it is not seen at its best, for if confined in pots and grown in a partially shaded structure, though it may flower, the clusters are not so large, nor the blossoms so brightly coloured, as under different treatment. It occupies a place among the giants of the genus, as if planted out in a warm greenhouse it will reach a height of 6 feet or more, and the flowers that are produced in large drooping clusters are freely borne. They are of a brilliant coral-red tint and remain in beauty a considerable time. It is well adapted for clothing the sunny end of a glass structure,

and in this way is very effective just now in No. 4 greenhouse at Kew. This *Begonia* was introduced from Brazil in 1841, and was figured in the *Botanical Magazine* as *Begonia coccinea*, but it is far more frequently met with in gardens under the specific name of *corallina*. Like most of the other members of the genus, it is readily struck from cuttings, and, if planted out, needs a well-drained border and a pretty good soil of a somewhat rough nature.—H. P.

FLOWER GARDEN.

LILIUM GIGANTEUM.

I SEND you a photograph of a spike of this Lily grown in my garden. It was over 7 feet high and had fourteen blooms of the most perfect form. It was a wonderful picture whilst it lasted, but owing to the great heat it only lasted nine days. It was from a bulb I purchased last year. The aspect was south-east and the soil ordinary garden mould. My experience of these bulbs is that the flowering exhausts the bulb so much that it never flowers again.

JOHN B. M. CAMM.

Burnham Grange, Bournemouth.

TOO MANY CARNATIONS.

THE love of novelty is now, and has always been such, that our "intelligent horticulturists" take advantage of the passion and continually raise for us novelties, and in this case we have too many of them. They are brought out wholly in the raiser's interest, so that he may charge a high price for what is really no better than the old things that were sent out years before. If anybody takes the novelties sent out by the florist raisers of Carnations for the last ten years, not one in twenty will be found fit for a place in the open air, which, after all, is the only true test. If these things are raised for the people who show them, then it is a question of a very few who ring the changes and take the prizes. The flowers with the heads cut off and stuck on a board are wholly different in character from those one wants for the open air. No fair trial of their endurance or fitness for the open air is made. If we visit the gardens of the most popular raisers of the present day, we find the plants carefully looked after in good greenhouses, and much attention given to the raising of seedlings for the sake of novelties, but no evidence of any fair trial of their fitness for the open air. Shows are

no guide whatever in the matter; on the contrary, they have done infinite harm by preventing us from finding out that the really good Carnations are those that have no points whatever for the show bench men, those simple and often splendid in colour, hardy and free kinds. Where general effect, purity and distinctness of colour are everything, the results which the imbecile rules of the florists lead to are nothing but feeble, striped plants, pretty to look at in the hand, but quite ineffective out of doors, and very often such that one cannot increase them freely or get any fine, healthy growth out of them.

What are we to do if we seek the beauty of this plant for the flower garden and for the house? Good outdoor Carnations are among the very best flowers for cutting for the house, and they come in at a time when flowers are not very varied, and when the greater number of early summer hardy flowers are past. The best way is to select and save the best of the approved kinds for outdoor work, and those that thrive the best with us; for even these plants have peculiarities, some being almost perennials in certain

soils, while some make grass early, and easily keep on from year to year, and others, if they bloom well, make very little. What we call good are such as Alice Neumann, Murillo, and among whites Alice; and for light soils the excellent Countess of Paris, Robinson Suisse, or any kinds, especially those that have a continuous habit of flowering long into the autumn. It would be better to raise a good batch of seed every year and depend on the result than buy with the hope of succeeding out of doors with the new kinds that are sent out by the florists, who, of course, claim for themselves the only right to lay down rules in that matter, with the effect of keeping the culture of this fine plant in a groove, and that a bad one. Among Carnations that we have found constant and good in the open air are Countess of Paris, Carolus Duran, Mme. Roland, Murillo, M. Roussel, M. Bergendi, Ketton Rose, Purple Emperor, Mrs. Reynolds-Hole, Mary Morris, Alice and George Maquay.

As to certain colours, whole groups of colour are, we think, perfectly useless on many cold soils and districts. For example, the yellows are rarely worth looking at out of doors, no matter how many we may buy and try. Even the very best, like Germania, have none of the brightness of colour and vigour of growth of the more naturally coloured Carnations, like the reds, pinks, and whites. The florist's kinds also, which have yellow as a base, are rarely worth growing as a group in almost any soil out of doors. The Malmaison, a purely greenhouse Carnation, has been used by the recent raisers too much, giving us the monstrous form, splitting habit, and delicate constitution which make them quite useless in the open air.—*Field*.

FLOWER GARDEN NOTES.

BEDDING PLANTS.—The much-maligned Geranium has done remarkably well this year, and is in variety among the brightest things in the flower garden. Always leaning much more to the side of hardy than tender plants, I have yet often noted that where formal beds of small size exist in quantity it is found desirable to utilise tender plants, and of these, Geraniums like Turtle's Surprise, Golden Harry Hicover and Chelsea Gem, make a brave show. The first-named is of a rich glowing colour, and being double the flower is well retained. Stronger varieties will be found in Henry Jacoby, Lucius, Amaranth and Flower of Spring. One or two beds of Raspail will be found useful. If planted in a fairly holding soil, trusses of great size and substance are produced that are sometimes very acceptable for cutting. Amaranth mentioned above is a good dark pink kind. If lighter shades are required, they will be furnished by Constance or Beckwith's Pink. The old Manglesi holds its own as a variegated trailer, and helps to make charming beds with occasional dot plants of a strong-growing dark Heliotrope, that throws a very large truss. Always on the look out for flowers that can be used in a cut state, I generally plant one or two beds of the scented-leaved section, and about the best are the finely-cut Filicifolium, the small-leaved peppermint-scented and Lady Plymouth. Writing of Geraniums reminds me to note with them Marguerites, because large plants of both the small and large-flowered varieties never show to better advantage than when surrounded by a carpet of scarlet, crimson or pink zonals. The large-flowered kinds, both white and primrose, are this year, at least in this neighbourhood, badly attacked by maggot. Plants are so rapidly and completely disfigured by this pest where it is locally troublesome as to render it advisable to discard them in favour of the small-flowered, small-leaved variety, unless time can be spared for a regular dewing over of the foliage with some insecticide to render it distasteful to the fly. In yellow shades under 2 feet in height we have nothing brighter or better at present, and with, too, the promise of a long-continued display, than the two annuals, Chrysanthemum Golden Button and Marigold Legion of Honour, and I can recommend them to

the notice of all who want a profusion of flower in these shades, and that at a minimum of expense and labour. The chief point is to sow fairly early and prick off quickly to secure nice sturdy plants. Both are capital dry-weather flowers. They do not seem to suffer from protracted drought if the borders or beds destined for their reception were well done. Small beds filled with fibrous Begonia Crimson Gem and a good dwarf Ageratum are now looking remarkably well. The above is, I think, the best of this type of Begonias for outdoor work, and it shows off to great advantage against a white carpet or flowers that run in the lighter shades of blue. Those with green foliage and pale pink flowers are pretty enough in their way, but they are not sufficiently distinct to associate well with other things. The dwarf Ageratum noted above is a very distinct variety, only about 3 inches high, of trailing habit, and a perfect mass of large rather dark flowers. It possesses the advantage of being fairly hardy, standing slight frosts with impunity, and is often flowering freely when circumstances necessitate its removal. Large plants of a dark Heliotrope are very free, the individual trusses of extra size. As a carpet for this there is nothing better than the old Manglesi Geranium. The older Fuchsias hold their own for outdoor work, General Roberts, Mme. Cornelissen, Rose of Castile and Mrs. Marshall being among the best. There was a variety labelled Annette grown some years ago in one of the London parks that I cannot find catalogued. The flowers, if my memory serves me rightly, had scarlet reflexed sepals and a large pale lavender corolla. The plants were almost perfect in shape, and the flowers, if possible, produced in greater profusion than on any of the others named. Specimen Fuchsias should never be crowded with other things, that is if they are employed in mixtures. They should have a dwarf carpet around them some 18 inches in width, so that the outline can be clearly seen right away from summit to base.

E. B.

Canna Paul Bert.—Since the numerous large-flowering varieties of Canna have become so popular, they are largely used not only for greenhouse and conservatory decoration, but also for the flower garden, and grand masses of them are to be met with in many of our parks and gardens. Some of those that are among the finest under glass are, however, by no means the best for planting out of doors, the conditions being so very different. A particularly good variety for outdoors is the above-mentioned Paul Bert, one of the many forms for which we are indebted to M. Crozy, of Lyons. This, which is of particularly sturdy growth, has good massive bronzy-tinted foliage, the stems and edges of the leaves being of a deeper hue, while the flowers, which are borne in good erect spikes, are large, the fine broad petals being of a bright red, with a suspicion of salmon. This variety is well worth growing for its foliage alone, but when a mass of its handsome leaves is crowned with numerous spikes of showy blossoms it is, of course, additionally attractive. It is not so tall-growing as many of the others, reaching, as it does in a general way, a height of 4 feet to 5 feet.—*H. P.*

Alonsoa Warscewiczii compacta.—In addition to the above being a useful annual for growing in masses in mixed borders, it also forms a fine subject for filling beds with, and as such deserves to be more widely known. I have used it this season with great success, and its brilliant orange-scarlet flowers have elicited admiration from all who have seen it. It has a compact habit of growth, and is not weedy-looking, which drawback prevents so many annuals being employed in this way. If planted from 9 inches to 1 foot apart the plants quickly cover the ground and form a fine mass, blossoming with the greatest profusion throughout the summer and autumn. The best way to raise a stock of plants is to sow seed in gentle heat at the end of March, and to either prick out the required number into boxes or in a frame on a mild hot-

bed, planting them out eventually about the middle of May. In colder parts of the country planting would no doubt have to be delayed until June. A great many plants can be raised from a threepenny packet of seed, so that no one can raise any objection to growing it on the score of its being costly.—*A. W.*

PROPAGATING TUFTED PANSIES.

The next five or six weeks should be a busy time with the propagation of these useful hardy plants. In those cases where autumn planting has been decided upon cuttings should have been put in some weeks ago; but at the moment the grower's chief concern should be that of getting the old plants in a condition to provide an abundance of cuttings of a desirable kind. It is not always possible to cut back a number of plants which occupy a prominent position in the flower garden, and on this account if a piece of ground can be set aside for planting the old stools, these may be cut back during the summer and provide an enormous quantity of cuttings during the propagating season. Of course it is possible to remove a goodly number of young growths from the plants in full blossom, and where cuttings of the Tufted Pansies are inserted during July and early August for autumn planting, recourse to this method is often had. This latter method has the advantage of keeping up a continuous display in the garden, and if batches of new shoots are detached from time to time, it is surprising what a quantity of new stock may be raised for planting out in their permanent quarters during October. Old plants treated in the manner already prescribed are distinctly better than other means of providing cuttings. Such plants produce a compact mass of fresh green growth, and if the proper time be chosen for the selection of the cuttings, they may be detached quite easily and about 2 inches to 3 inches long. Cuttings developed in this way invariably root readily, and even at this season it is possible to raise a batch of plants for October planting by a selection from the stock plants already mentioned. It is only courting failure to make cuttings of old stem growths, as these are generally hollow, and although looking fairly fresh and green for some little time after they are inserted in the cutting-bed, very few indeed ever survive, and even then they rarely give satisfactory results. Where the stock is scarce or the raiser of a good seedling sort is anxious to perpetuate as much as he can of the variety, stem cuttings are sometimes inserted, and with great care may perhaps make plants, but as a general rule it should be discouraged.

A capital position for a cutting-bed, say during July and August, is in a border with a northern or an eastern aspect, the cooler conditions prevailing in these positions ensuring their well-being during these warm months. Equally good results may be had if a position can be obtained where the friendly shade of a hedge or small shrubs, &c., will shelter the cuttings from the strong rays of the sun, and where the latter may filter through the foliage without scorching them. In this position, and if the soil be kept in a fairly moist condition, and the cuttings occasionally sprinkled overhead with a fine rosed can, plants may be had in a few weeks. In my own case the ordinary garden soil is deeply dug and broken up, and with this, equal parts of loam, leaf mould, rotten manure and coarse sand or road grit are mixed and levelled to the depth of about 6 inches. Over this again, to the depth of say 3 inches, a layer of the same compost, but this time passed through a sieve with a half-inch mesh, is evenly arranged. The bed should then be rendered somewhat firm. This is then carefully watered an hour or two before the cuttings are put in. It will thus be seen that the cutting bed is some 8 inches or 9 inches above the level of the garden; the advantage of this is seen later in the season, when during the excessive wet of autumn and in such a cool position the ordinary garden level would not be conducive to the welfare of the young plants

Providing plants for spring planting from the present time and until October may be safely done. Even for this work, frames, &c., may be dispensed with, and only in low, damp situations, or where the position is exposed to cold winds, is it necessary to use them. There is a difference, however, in the position of the cutting-bed for this later propagation, and in this case a south or south-western aspect is selected. The compost is prepared as before, but before this is arranged a framework of 10-inch boards cut in lengths to suit the needs of the grower—in my own case 10 feet by 4 feet—and this raised a couple of inches from the garden level, is filled in and levelled down, leaving some 3 inches to 4 inches of board for protection from cutting winds, and also in the case of long periods of frost, providing a rest for laths or anything of that kind in which to place frame-lights, mats or any protection. With reference to this latter question, in my own case only on one occasion has it been necessary to give protection in this way, and that was during the severe weather of the winter of 1894 and 1895. My experience of plants raised in the hardy manner here referred to is that, although the plants in the spring do not present so fine an appearance as those raised in frames, &c., there are so many shoots in the embryo stage, that after being planted a week or two the soil simply bristles with a large number of growths which were hidden before. These plants, too, soon pass those accorded more kindly treatment in frames and planted out at the same time. When inserting the cuttings, the distance between each one should be about 2½ inches, and 3 inches between each row. This should be ample in most instances, and in the cases of the slower growing sorts, such as Blue Gown and several of the *Violetta* type, it may be half an inch less each way. Too much emphasis cannot be laid upon the importance of pressing the soil firmly at the base of each cutting, as should they be pressed at the neck of the cutting, the chances are they will "hang," and consequently wither and die. In cold and unfavourable situations, also in and around large towns, where in the latter case the fogs, heavily charged with sulphur, so frequently cause the cuttings to die off, the frames and cold pits are indispensable, but most persons interested in this increasingly valuable hardy plant would be glad to use their frames for other purposes, could they dispense with them for the Tufted Pansies.

With so many new introductions each season and the acquisition of some lovely selfs from time to time, it would be wise when making a selection to confine oneself to the best of these, as their value for massing in the hardy border is so much greater than when edged and fancy sorts are used.

D. B. CRANE.

Highgate.

NOTES AND QUESTIONS.—FLOWER.

Gentiana verna.—I am surprised to see it stated by one of your correspondents, whose letters I always read with great interest, that *Gentiana verna* dies off after a few years, as with me it takes a few years to become established, and then grows and flowers well.—E. D'O., *Brav. Co. Wicklow*.

A white Thistle.—In THE GARDEN of Aug. 13, p. 129, "V. B." asks as to there being a white Thistle. One of our commonest desert plants at Alexandria, flowering in May and June, is a Globe Thistle (*Echinops spinosus*) with heads of pure white flowers as large as a tennis ball. It is a very thorny perennial, of decumbent habit, about a yard or more in length.—R. M. B.

Carnation layering.—Why the common practice of cutting back the points of the leaves on layered shoots should exist I have never been able to understand. It is particularly common practice amongst market growers, who seem to be guided in the practice solely by tradition. Probably no one who practises it could give a tangible reason for doing so. The obvious moral is that the greater the leafage area the more rapidly will sap be generated to create callusing.—A. D.

Carnation Germania.—Although this fine yellow has been referred to as not being satisfactory in

the open air, it has been very fine in a big bed at Maiden Erlegh, where just recently I saw it growing in very considerable quantity. Mr. Turton prepares his ground for Carnations by trenching and manuring, then, because the position is rather cold, planting out in the spring. The result is the production in numerous varieties, and especially some fine seedlings of strong, robust growth and flowers in great abundance. So treated *Germania* was very fine indeed, giving an abundance of beautiful flowers.—A. D.

Carnation Trentham Rose.—This is a variety raised by Mr. P. Blair, of Trentham Gardens, and a good bunch of it was exhibited recently at Shrewsbury, where it obtained a certificate of merit. Whilst very nearly of the same rosy shade as is the well-known Raby Castle, it is so far superior that, whilst remarkably free, the calyx does not in any case split, thus preserving good form, and the edges of the petals are comparatively smooth. Such a variety, having a good, stout constitution, should make a capital addition to our border varieties, and help to eliminate the loose, ragged flowers far too often seen, and of which we want none.—A. D.

YUCCAS AND ACANTHUS.

In the accompanying illustration we are afforded proof of the decorative value of such subjects as bear striking spires of flower. As may be



Group of *Yuccas* and *Acanthus* on the west side of Ojington House, Worthing. From a photograph by Miss Gaisford.

seen, the effect produced when these are planted in the immediate neighbourhood of the house is pleasing, since it at once banishes that sense of formality so often observable in such situations, by the diverse heights and contours of the bloom-spikes, and by the bold and varied outlines of the finely-formed leafage. *Yucca filamentosa* shows its densely-flowered spikes of ivory bells in the foreground, backed by the taller bloom-spikes of the handsome *Yucca pendula*, whilst amongst the *Yuccas* are interspersed the flower-rods of *Acanthus spinosus*, thickly set with pink and white blossoms. However attractive such plants may appear when in proximity to the dwelling-house, it is, perhaps, in the wild garden or in open spaces bordering

shrubberies that they are to be seen to the best advantage. In such sites delightful pictures are formed by colonies of *Yuccas* when in flower, and even when they are out of bloom their noble foliage renders them objects of interest. The dwarf-growing *Y. filamentosa*, *Y. flaccida*, *Y. pendula*, with gracefully bending leaves, and the tall *Y. gloriosa*, the giant of the family, sometimes attaining a height of 10 feet, with its erect, sword-shaped leaves and lofty, thickly-flowered spikes. Here, too, the *Acanthuses* are more at home than in the flower border, the strong-growing *A. mollis* throwing up its bloom-spikes to a height of 7 feet and more above its wide, deeply-cut leaves—those leaves whose graceful curve first suggested the capital of the Corinthian pillar. *Kniphofias*, with their glowing flower-heads, are also highly decorative when planted with discretion among natural surroundings, while in the south-west *Dracena australis* often perfects its odorous flower-spikes before attaining a stature of 6 feet. Few flowers are more attractive when growing naturally in the wild garden than white Foxgloves, the tall flower-studded wands waving with every breath of air or trembling at each impetuous incursion of the burly humble-bees into the drooping

chalices, while in many a cottage garden the Hollyhocks, double and single, with massive flower-spikes, crimson and pink, tower against the whitewashed walls, the embodiment of robust comeliness, and offer a prospect that causes many a passing footstep to linger by the lattice gate. Foxgloves are, naturally, but biennials and die after flowering, but are easily raised from seed, as are the Hollyhocks, though the latter are often treated by the cottagers as perennials and throw up spikes from the old stool year after year; but neither of these, beautiful as they are, can be compared for permanent effect with the subjects of this note, the *Yuccas* and *Acanthuses* enlarging their dimensions with the circling years and becoming more floriferous and decorative with each succeeding season.

S. W. F.

Slag manure.—Could you or any of your readers kindly give me any information regarding the quality of patent slag manure, and if they have any experience as to its value as a garden fertiliser?—R. K. PATERSON.

* A soil which has for some considerable time been devoted to garden purposes differs considerably from agricultural land. It always contains a considerable amount of organic matter (humus), and the presence of this is eminently favourable to the direct assimilation of finely-ground phosphates; indeed, the results from the use of

phosphatic manures on garden soils are 50 to 60 per cent. better than those obtained from the use of the same manures on ordinary land. Basic slag is the cheapest source of phosphoric acid, and in this instance it would be the best kind to use. One of the chief objections to the soil of old gardens is that it contains too much organic and too little mineral matter. When, therefore, decomposed vegetable matter is added to such soil you are adding a substance of which there is already too much in the land, but when mineral manures are added the balance of organic and inorganic matter is better adjusted and more satisfactory results follow. Basic slag contains a large quantity—nearly 50 per cent.—of lime, the effect of which is to decompose the nitrogenous matter accumulated in the soil, liberating nitrogen for

the use of plants. In purchasing slag manure be careful to see that it is very finely ground, and also do not forget to use some potash manure—kainit for choice—in addition.—C. G. FREER-THONGER.

FRUIT AND VEGETABLE CROPS.

EASTERN.

Coldham Hall, Bury St. Edmunds.—The abundant crop of blossom on almost every description of fruit tree here this season has not been followed by an extra fine fruit season. Doubtless the dry winter and the long cold spring had a good deal to do with the deficiency. Apples are not plentiful in this garden, but, taking an average of many gardens of different kinds visited in the neighbourhood, I think there is an average crop. The need of planting good reliable late-keeping cooking varieties appears to be more than ever, and there is an unfailing demand for this class of fruit far exceeding the supply. With regard to varieties, a few of the most sure fruiting kinds generally are an absolute failure here King of Pippins and Dumelow's Seedling, two that have never disappointed as far as quantity of fruit is concerned, are absolutely bare, while Peasgood's Nonsuch, not always a sure bearer here, has had to be thinned considerably. Blenheim Orange is a fair crop, Ribston and Cox's Orange both poor. Lord Suffield and the Codlin family generally are much behind their usual form. I do not grow the Juneating, but close at hand trees are heavily laden with small and not particularly well coloured fruit. Beauty of Bath is well cropped on small, free-trained trees, but espaliers of most varieties are almost bare, except where an extension shoot has been taken. Pears are very short, the best here being Beurré Diel, Louise Bonne of Jersey, Williams' Bon Chrétien, Beurré Bosc, and Gansel's Bergamot. These are all bearing a medium crop of nice clean fruit, but nearly every other kind grown is a total failure. Plums are scarce, my best being The Czar, one of the most useful Plums ever sent out, Gisborne's, and the Early Transparent Gage. Cherries are not largely grown, but Elton, May Duke, and one or two others have borne very fair crops of medium-sized fruit. The difference between trees of both Plums and Cherries grown in firm soil and others where it is more lightly cultivated around them was never so apparent as this season. Under the former circumstances fruit is plentiful; with the latter there is more wood than fruit. Peaches outside were badly checked by the cold, ungenial weather, but are now looking much better, and there is a very fair crop on most kinds. Alexander and Bellegarde Peaches are the best. Inside the fruit has been remarkable for quality and colour. That splendid Nectarine Early Rivers improves annually, but the fruit in an unheated house of this and Hale's Early Peach are about ten days later than last year. Walnuts and Filberts are a medium crop only. Of small fruits, Strawberries have been a remarkable crop, the first year plants especially. The fruit has been large and of excellent quality throughout, that fine, though erratic, variety Monarch having much improved here this season. Latest of All is still (August 4) giving an occasional dish, thus for once, in this garden at any rate, being true to its appellation. Dr. Hogg has been very fine, but the Gunton kinds are again a miserable failure. Gooseberries have borne excellent crops of fine fruit; Raspberries and Currants good. Damsons are a failure.

Vegetables have been later than usual, but good in all cases. Potatoes are lifting well, and although disease is rampant in the neighbourhood I have not as yet had a bad tuber. Sharper's Victor I still grow, as it is certainly earlier than the better flavoured Myatt's. I never had the soil in better working condition than this season, consequently germination has been rapid and sure. Root crops are all good and clean with the single exception of Turnips. Broad Beans were excellent; Kidney Beans later than

usual, but now bearing very heavily. The whole of the Onion crop was sown under glass and transplanted, and the result justifies the trouble taken. Autumn-sown Onions ran away to seed rather badly, but few were wasted owing to a short crop. Salads have been abundant and good owing to the cool, moist weather during the greater part of the summer, and all classes of winter greens are looking well.—H. R. RICHARDS.

Anstey Hall, Trumpington, Cambridge.—Strawberries have been very abundant, Royal Sovereign being the best. Gooseberries, Black, Red and White Currants are very plentiful. Raspberries fairly so. Peaches were nearly killed with the blister and curl in the leaves, and in consequence most of the crop has fallen and the fruits that are left will be small. Apricots are dropping even at this date and will be a thin crop. Plums are a complete failure and very much blighted. Apples are nearly as bad; in some orchards there are none, as in all, the leaves look as if they had been syringed with hot water, the fruit and leaves dropping as if it were October. Pears are scarce. In early spring I never saw a better promise for fruit of all kinds.

All kinds of vegetables are looking remarkably well, although somewhat late. Onions are in some neighbouring gardens mildewed. I took the precaution to well dust mine in the evening with ground lime, which I believe has kept them clear. Cauliflowers are and have been very plentiful. Brussels Sprouts, late Cauliflowers and Broccoli are promising. I never saw vegetables in more abundance. French and Runner Beans and Vegetable Marrows are late, but look very promising. Potatoes are above an average crop, but the disease has shown itself in several places here.—C. FORBES.

Ashwellthorpe Hall, Norfolk.—As far as this garden and neighbourhood are concerned, the fruit crop on the whole must be described as below the average. Apples are certainly better than last year, but the fruit is undersized and the trees much blighted. Pears are a very poor crop; Plums rather better; Cherries very scarce. Peaches and Apricots are a fair average crop. Strawberries are abundant, especially Royal Sovereign. Outdoor Figs are a good crop. Raspberries above the average; the dry weather rather interfered with the late gatherings. Walnuts are very scarce; other nuts abundant. Black Currants and Gooseberries are very heavy crops. The favourite Gooseberries in this neighbourhood where they are very largely grown for market are Keepsake, Whinham's Industry, Crown Bob, Lancashire Lad and the Old Warrington.

All vegetable crops have been good. Peas I have never known to do so well. Both early and late sorts have been abundant. Onions are doing well, and the Celery up till now is free from the maggot. Potatoes both early and late are excellent, but I am sorry to find the disease very prevalent. Tomatoes outdoors are quite a failure this season.—T. B. FIELD.

WESTERN.

Tortworth, Falfield, Gloucestershire.—The fruit crops in this district this season are on the whole under average. Apples and Pears, also Plums, have prematurely fallen from the trees. Insect pests have been and still are very troublesome. Peaches and Nectarines are an average crop and very good; small fruit over average and good.

The vegetable crops generally are very good. The Potato crops are now somewhat prematurely ripening, possibly from lack of moisture. The tubers are smaller than usual, but very good and quite free from disease as yet.—T. SHINGLES.

Killerton, Exeter.—Apples generally are below an average crop. Among the best bearers this year King of the Pippins stands first, while Blenheim, Tower of Glamis, Mère de Ménage, Cornish Aromatic, Lady Henniker, Stirling Castle, Cellini, Schoolmaster, Worcester Pearmain, Tom Putt, and Reinette Blanche d'Espagne are very good. Pears are also below

the average. Plums on walls are very scarce, but Early Prolific and Prince Englebert on standards in the orchard have good crops. Cherries are scarce, the trees being affected by the very dry weather. Peaches and Nectarines are also very scarce. Apricots are also scarce, the Shipley Apricot being the best this season. Small fruits have been abundant and very fine. Filberts and Cob Nuts are very plentiful, but Walnuts are very scarce.

Vegetables generally have been much affected by the dry weather. The early and second early Peas had good crops, but later sorts were much affected by mildew. Scarlet Runners have been later than usual, but are now bearing well. Carrots, Beets, and Parsnips are good, but Onions have suffered from the drought. Good Cauliflowers have been scarce, Globe Artichokes most abundant, and Marrows very plentiful. Early Potatoes have ripened off; the crop is light, but of good quality. Schoolmaster is quite green and very promising, and being free from disease there is every likelihood of a good crop.—JOHN GARLAND.

Thornhill, Stalbridge.—Apples, Pears, Plums and Cherries are good; Peaches excellent; Apricots average; small fruits good and Strawberries under.

Generally speaking, the vegetable crops are of fair average quality, excepting Turnips, which the drought has seriously affected, and of Potatoes the early varieties are rather undersized, but excellent in quality, and with rain now the late crops give promise of an average supply.—FRANK SINGLETON.

Frampton Court, Dorchester.—The fruit and vegetable crops in this garden and neighbourhood have been fairly good this year. During the spring and early summer they were very backward, owing to so much dull weather. During July I gathered an enormous crop of Strawberries, also a very heavy crop of Black Currants. Gooseberries, Raspberries, Red and White Currants were about an average crop. Apples and Pears generally in the neighbourhood are much under the average, while Plums and Cherries are rather above average. Peaches look well at present and promise to be better than usual.

As regards vegetables, there has been no crop this year so good as Peas. I had an exceptionally good lot, but they came on with too much of a rush, all coming in at about the same time. Peas of the same variety sown a month later were fit to gather almost at the same time. Early Potatoes are very small, but the later ones generally are looking well, and I have not seen any signs of the disease anywhere yet. Vegetables are looking well, especially Carrots, Parsnips and Beet.—H. J. HARVEY.

Westonbirt, Tetbury, Gloucester.—A fine show of blossom in the spring gave every appearance of its being a good fruit year, but the spring frosts destroyed the Plum blossom, and the blight seriously affected the Apple and other trees, that on the whole the crop in this district is slightly under average. Most of the cooking Apples are bearing an average crop, but the fruits are very much deformed. Warner's King, Manks Codlin, and Annie Elizabeth are the best. Bramley's Seedling is not bearing well this season, but is an excellent variety to grow. The dessert kinds are poor, the trees looking wretched, the young growths curled and blackened with the blight. American blight, too, has been very prevalent this year. Pears are under average. Apricots are above average. Peaches and Nectarines good. The trees were very much blistered in the spring, but have grown out of this. Hale's Early Peach ripened on a south wall in July, but its failing is splitting the stone. Sea Eagle does well here on a south wall. Early Rivers is an excellent Nectarine both for outside and inside, but must not be allowed to grow too grossly. Cherries are average. Strawberries are good. Royal Sovereign is the principal one grown, but succeeds best when left only two years on the same ground. President and Sir Joseph Paxton both do well. Laxton's Latest of All is a very fine variety, and

when better known will be largely grown. Bush fruits are good. Whinham's Industry Gooseberry is an excellent sort both for picking green and excellent for dessert, improving as the bush gets older. Of Raspberries, Superlative is a good all-round variety, *Semper Fidelis* being best for the kitchen and preserving. Yellow Antwerp is the best of the pale yellow varieties. Currants, Red Dutch and Cherry, are both fine. Carter's Black Champion and Lee's Prolific Black are both good and vigorous in growth. The latter hangs the best. Walnuts are an average crop: Filberts and Cobs under.—A. CHAPMAN.

Bosahan, St. Martin.—Apples are a fair average crop. Plums are rather below the average. Peaches and Nectarines (out of doors) are poor. Small fruit of all sorts, with the exception of Red Currants, is quite up to the average.

Vegetables of all sorts are unusually fine.—T. CRAWFORD.

NOTES OF THE WEEK.

Gladiolus White Lady.—Flowers of a very beautiful white variety of *Gladiolus Gandavensis* come to us from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. The flowers are very pure and pretty in form, too.

Cestrum aurantiacum.—A useful and distinct as well as beautiful climber, with numerous terminal heads of nearly tubular flowers. Among climbing plants the shade of colour is not frequent, and being comparatively hardy is worthy of more attention than it receives as a rule.

Rudbeckia bicolor superba.—This handsome annual was exhibited recently at the Drill Hall by Messrs. J. Veitch and Sons. The flowers are very showy, and improve upon closer acquaintance. The colour is a bright orange-yellow with a deep crimson zone. In height the plant is from 2 feet to 3 feet.—D. B. C.

Tufted Pansy White Empress.—Autumn-planted roots of this variety commenced to flower as early as April last, and have bloomed ever since. At this time they are covered with numberless rayless flowers of a pale creamy white colour, and these are still of large size. The habit of the plant is fairly compact and dwarf.—C. A. H.

Phlox Aurea.—This handsome late-flowering Phlox deserves extended culture, as its bright and effective colour is a pleasing feature in the hardy flower border. It produces a large branching spike of showy flowers, which may be described as brilliant orange-scarlet with a rich crimson eye. It stands out as a thoroughly good and reliable sort to perpetuate.—D. B. C.

Sagittaria heterophylla.—This is a good and showy species from North America and one well suited for moisture-laden spots in the garden or in shallow water, where it is usually more vigorous because of the safety of the roots in the rich mud that congregates in such places. The flowers are about 1½ inches across, and produced in a loose pyramid, while the satiny texture of the blossoms is a rather pleasing character.

Thunbergia grandiflora alba.—A beautiful and showy subject, if, indeed, the purest of white flowers may be termed showy. As an indispensable subject among stove plants this handsome plant has but few equals, the flowers large and produced with considerable profusion where good plants exist. Where there is roof-room this handsome Indian climber should always find favour, if only for the exceeding purity of its flowers.—E. J.

Campanula Hosti alba.—Though somewhat difficult to secure true to name, this handsome Bell-flower is one of the best of that set more nearly related to *C. linifolia* and others; indeed, a white form of this is too frequently substituted for the above, which is larger in foliage, as it is in blossom, the latter also more bold and the corolla more reflexed. It is also darker and denser in habit, and in other ways quite distinct when both are grown quite near for comparison.—E. J.

Alstromeria inodora.—At a short distance one may be pardoned for mistaking this showy plant for *A. psittacina* or a well-marked form of it, more particularly on account of the prevailing colour which exists, viz., a dark crimson with green. The above, however, is nearly 3 feet high, and comes from Brazil, so that it is possible that to some extent it may be

less hardy than others of its race. In a sheltered position alongside the Kew Palm house is a good group in full flower now.

Lathyrus grandiflorus albus.—This fine plant came before the floral committee of the Royal Horticultural Society at their last meeting, and is a vastly improved form of the old Everlasting Pea. When this new sort gets into general cultivation its fine qualities will be highly appreciated, both in the hardy flower garden for covering trellis-work and similar uses, as well as for cutting for decorations. The flower-spikes, as well as the individual flowers, are very large.—D. B. C.

Acæna microphylla.—Few alpine plants are of more interest than this when carpeting a given space in the rock garden and studded with its globular rosettes of crimson spines. When at its best the plant is more than interesting: it is really attractive, and for the combined reasons is worthy of good culture at all times. With plenty of soil for rooting into, a rather sunny piece of rockwork suits it best, but these are conditions which surrounding circumstances may require to be modified.

Anemone Halleri.—A few seedlings of this handsome species have been giving their first flowers of late from young plants that were bedded out in the early summer of last year. When fully grown the group promises to be a most attractive one, the deeply-cut and much-divided leaves spreading out freely, and the handsome, erect cups, covered externally by a silken down, are of a rich dark purple within. This shade may, however, vary among the seedlings, as it does again in certain stages of the open flowers.

Seedlings from Tufted Pansy Pembroke.—This has been much admired all through the summer season, its large circular, rayless, clear yellow blossoms being quite distinct from all others, and they are much paler on the upper petals. Unfortunately, by July the growth becomes too leggy, and shows the need of an improved habit. From 200 to 300 seedlings of this variety raised in the spring there is now a most interesting result, and several plants with blossoms of a rich colour and possessing a more compact habit are flowering profusely.—D. B. C.

Rudbeckia Maxima.—This stately plant is noteworthy now in Waterlow Park. The flowers are large with long, broad, and semi-drooping rich yellow florets and a well-defined conical disc of a purplish maroon colour. The silvery green foliage of the plant is also striking. The height of the plant is about 3½ feet.—D. B.

Rudbeckia Newmani.—This is one of the most useful of the Cone-flowers, and just now is at its best. Isolated clumps in the hardy border are effective and always a welcome feature at this season, but to be fully appreciated it should be seen in large breadths, where, if used in conjunction with other hardy plants, such as *Pentstemons* and other equally showy subjects, the contrast is striking. This is undoubtedly one of the most valuable perennials in flower at this season.—C. A. H.

Dianthus cyprius.—Is it possible that the really fine form of this handsome single Pink is overlooked by gardeners as a rule? Not only is it good in form, but it is dwarf, freely flowered, and of good size. Individual blossoms of this fine single Pink are about 2 inches across, the petals remarkable for their smooth edge, and the pink shade rendered very attractive by a large crimson centre. A large bed of this has been very striking for some time past, and even now promises a still further display.—E. J.

Salpiglossis sinnata vars.—At the present time this beautiful annual is displaying its varying and well-nigh endless charming shades to advantage, and few things are more beautiful or interesting than a bed of these of a good strain. The flowers in their wonderful colours embrace shades that are quite unique, and doubtless a few years hence will see a marked improvement in the habit of these things, which is now frail and somewhat thin also. By a little care in raising the seedlings, the present straggling habit may, however, be modified.—E. J.

Cactus Dahlia Mrs. A. Peart.—To see this type of the Dahlia in proper form, with its neatly quilled florets, it must be grown thoroughly well. Under such treatment individual flowers

are very pretty, yet much of the beauty of the flower from a garden point of view is lost, because of the weak foot-stalks which characterise the growth. Instead of the flowers looking one in the face as it were, they overhang in such a way that they can only be seen satisfactorily by raising them with the hands. The colour is creamy white.—B. C.

Tufted Pansy Lavinia.—Although a more circular flower than *Violetta*, the original of the miniature-flowered Tufted Pansies, there is much beauty in this charming kind. It is a little later than the ordinary large-flowered varieties in coming into flower, but when once they begin to make their appearance they continue until the end of the season. At this time its pretty little pale bluish lavender blossoms, with a rayless yellow eye, are freely produced. This is one of the gems of the season, and was figured in *THE GARDEN*, February 19, 1898.—C.

Seedling Tufted Pansies.—Mr. D. B. Crane, of Highgate, sends us a charming series of his Pansy seedlings. Mr. Crane is working in an interesting way trying to get the flowers smaller even than *Violetta*, and we hope he will go on with this strain. It may be very precious for rock gardens, getting some of the small kinds of good colour. Being of a perennial nature these little Pansies will be among the best things to grow on rock gardens or walls. Their beauty of colour and distinctness fit them well for this purpose, and they will prolong the length of rock-garden bloom.

Placea ornata.—Mr. Perry, Winchmore Hill, sends us some flowers of this with the following note:—This was received from Chili with *Tecophylla cyanocrocus*, and I believe it requires somewhat similar treatment. The last-named plant Mr. Burroughes, of Stamford, has had growing outside for many years, but not the *Placea*. I should think it requires a warm greenhouse to do it well. The flowers sent you were cut from small collected plants. I have had flowers here quite double the size, and four on a stem. I have had all mine grown in a cool greenhouse just kept from frost.—AMOS PERRY.

Gentiana asclepiadea alba.—Considerable use is made of this plant at Kew in the rock garden in a variety of places, and with good results generally. In some instances the blue and white combine, in others the species is represented by large clumps of several years' growth, and yet again a few are in raised positions, and the willowy branches allowed their own way produce a very pretty result by mingling with other things with which they come in contact. In these raised positions where sufficient depth of soil is at hand this is one of the most beautiful and graceful of summer-flowering plants, and which in truth has no rival in its own genus.—E. J.

Acalypha hispida (Sanderæ).—This plant novelty has been so abundantly referred to of late that little remains to be said concerning it. At the same time we call attention again to the plant because of some examples fully 6 feet high we have seen that were grown without stopping, and which appears to be much the best way of treating it. Thus grown, the plants retain the handsome leaves to the pot, while the reddish-crimson tail-like appendages depend over each other in a remarkably profuse manner, even to the very summit. The way the colour is retained in these drooping inflorescences is also noteworthy, and therein is much of its decorative value invested.

Veronica parviflora.—The shrubby Veronicas are all welcome in their season, and the one under notice I do not remember having seen so pretty in my garden before. The winter of 1894-5 killed the two old plants I had, but some young self-sown seedlings escaped, and these with others raised since are now very pleasing. Seedlings come up frequently here, and have now and then to be pulled up when they appear in quarters reserved for small growing alpinists. The flowers are white and very profusely produced in spikes. I grew this *Veronica* for several years

without knowing its name until I saw it at Edge Hall.—S. ARNOTT, *Carsethorn, by Dumfries*.

Rudbeckia laciniata Golden Glow.—My first impression of this double Cone-flower was not a favourable one, derived as it was from a cut flower which looked lumpy and heavy. Last year a good plant or two in bloom led one to think more highly of it, and longer acquaintance confirms the more favourable opinion. It is, I think, a plant which will give more pleasure if grown in a poor soil than in a heavy and rich one. In the former its naturally tall habit is checked and the flowers reduced in size. If grown in a sheltered place and left unstaked its natural grace is not destroyed, and it will be seen that its habit is in its favour, especially if it rises through dwarfier flowers.—S. ARNOTT.

Zauschneria californica.—Just now this is one of the most brilliant of the subjects flowering in the rock garden, the flowers, long and tubular in outline, being of a vermilion-scarlet shade. In certain districts this plant is not considered strictly hardy, but I do not think the experience general. One item should be kept in view when planting this. It is this—its liability to spread by stoloniferous growths, which require some space superficially. By means of these underground shoots, the plants if planted rather more deeply than usual may generally be depended upon to spring again even after hard frost, or, if the latter sets in, the plant by its strictly herbaceous character is one of those subjects easily mulched over for the time being.

The Cornish Heath (*Erica vagans*).—In the rock garden in autumn the Heaths are usually very attractive, and none more so than the Cornish Heath—*Erica vagans*. At present a large plant of the white variety, crowning a knoll on the rockwork here, is very pleasing. It is true that the red anthers protruding from the flowers take from its whiteness, but even this defect cannot prevent one from admiring the beauty of the plant. As an edging to a walk, where it succeeds the Cornish Heath is very pleasing. At Sharncliffe, New Abbey, N.B., there is such an edging, and, as it is kept in good condition, it always looks well. Where limestone is absent, *E. vagans* appears to succeed.—S. ARNOTT, *Carsethorn, by Dumfries*.

Kniphofia Nelsoni.—Where only one species or variety of the Torch Lily can be grown, I should be inclined to favour this beautiful kind, simply because of its great freedom of flowering. Indeed, it is, I believe, one of, if not the most profuse of its now numerous race, while the dainty spikes, which are so exceptionally brilliant in colour, are large enough for all purposes of cut flowers and the like. Moreover, the stems are not of the great thickness of many kinds, an item alone that prevents the use of many in this way even in bold arrangements where a few spikes may not be out of place. In short, *K. Nelsoni*, whether in a cut state or in the border, is unique, not only for its useful size, but equally so for its brilliant colour, that in the long tubular flowers is seen to advantage.—E. J.

Lilium Henryi.—This lovely species is now well in flower at Kew, the plants sending up their stems several feet in height, so that the richly-coloured flowers may be easily seen. The group in question is planted in the middle of a bed of *Osmanthus*, compact bushes of about 3 feet high and as much through, the tallest stems of the Lilies being from 4 feet to 5 feet above the bushes. The colour in this Lily, a sort of apricot-orange tone, is very distinct, altogether removed from the more delicately-toned *L. Batemanni* in this respect, because of the orange shade overlying as it were the apricot hue. This remarkable Lily is usually described as orange-yellow, though I confess the latter colour very difficult to discover. That it is a splendid addition to hardy Lilies there is no doubt, and happily it appears more amenable to open-air culture than some, which is a great gain.

Incarvillea Delavayi.—It may be because *Incarvillea Olge* proved disappointing as a hardy

plant that *I. Delavayi* finds its way but slowly into our British gardens. Whatever the reason for its being so little grown, the sooner it becomes more widely known the better. It seems quite hardy, is by no means difficult to grow, and can be raised easily from seed. From seed it has been flowered the first season, but unless sown early and given good treatment it will not flower until the second year. It forms thick, fleshy tubers from which the attractive leaves and the spikes of long, Gloxinia-like, scarlet flowers are produced. It is quite hardy with us in the south-west of Scotland, and I saw it in Ireland last June in flower. It is superior in size and character of flower to *I. Olgea*, and its greater hardiness is only an additional recommendation.—S. ARNOTT.

Aristolochia hians.—While not figuring among the largest of this very remarkable genus, the species here named is very striking in general appearance, as also in its markings. The flowers, which emit a very strong if not altogether agreeable odour, are produced somewhat profusely, and externally are of a greenish bronze, with dark veins distributed over the somewhat inflated lower half of the flower. Internally, or rather the approaches to the tube and what may be seen by the casual observer, it is freely covered with hairs, while a blackish maroon surface appears to surround the entrance to the tube. The above species, as also the much smaller though very beautiful *A. elegans*, are both flowering freely in the stove aquatic house at Kew, where they appear to delight in the warmth and moisture-laden heat that surround them.

Rosa rubrifolia or ferruginea.—This is a most distinct species, and worthy of more extensive cultivation. Just now young budded plants are of beautiful colour, the bluish wood, covered with bloom like a Grape, is quite thornless, and is no less attractive than the reddish leaves. These latter are also glaucous like the wood, and are seven in number. The dull red rather small fruits are not so bright as the fruit of some other Roses, but they have a showy appearance when quite ripe. This shrub seems to me as useful for decoration as the purple-leaved *Berberis*, and I am surprised it is not planted in large masses, for it retains the rich colour all through the summer and autumn. As with many other coloured shrubs good cultivation and hard pruning are required to keep them in condition. If allowed to become starved and to grow uncared for, they quickly become insignificant objects.—P.

Combretum purpureum.—In a collection of stove and greenhouse cut flowers we recently saw in the west of England appeared a fan-shaped spray or two of this fine old evergreen twiner. What is known as *C. purpureum* is doubtless *C. grandiflorum*, and it appears to do well in a warm conservatory or heated Fern house. Yet, as the late Mr. Thomas Baines says, "it must not be subjected to draughts in a cool house, as it is essentially a warm stove plant, coming from the hot, moist regions of Madagascar, and therefore cannot bear for any length of time either a low temperature or a dry atmosphere." The flowers are individually small, but they are freely produced in dense spikes, a number of which in the case of a well grown plant form a spray a foot in length and nearly as much in breadth. One can quite understand the beauty of this plant when it is seen in its native habitat adorning the forest trees of the tropics with immense festoons and garlands of their gay flowers. The most suitable soil for this plant is a good fibrous peat, with enough of sand added to keep it well open. The *Combretum*, being a slow-rooting plant, needs to be sparingly watered.—R. D.

Chironia baccifera.—In a very fine collection of plants staged at the Sandy flower show by Messrs. W. Cutbush and Son, of Highgate, could be seen a small specimen of the charming pink-flowered *Chironia baccifera*, the berry-bearing *Chironia* from Southern Africa. When in flower

one is reminded of a pink *Linum*, and the flowers are freely produced. Twenty years ago I used to see this species thrive in collections of stove and greenhouse plants in the west of England, but it is no longer seen. Someone used to grow it into capital three-quarter specimens, and it was always a prominent feature in the foreground of a collection, but the grower has probably passed away, leaving no successor capable of managing this plant. It is a soft-wooded greenhouse perennial, thriving in a fairly coarse mixture made of three parts of peat and one of loam, with plenty of coarse sand added. Abundant drainage is necessary and the plants should not be overpotted. Care is necessary not to over-water, and especially during the winter months. It is perhaps difficult to keep a specimen in the best condition until it becomes large in size, and this may account for the absence of the genus in present-day collections of stove and greenhouse plants.—R. D.

Some attractive Roses for their fruit.—The showiest seed-pods of all the Rose tribe are those of *Rosa pomifera*. The individual fruits are not quite so large as those of the *rugosas*, but better displayed upon the bush. The two-year-old branches cut back to about 3 feet from the ground produce laterals right up the shoot, which blossom and yield two to four fruits in a bunch. The glaucous foliage not being so dense as in the *rugosas*, allows these fruits to be all the better seen. They are about 1½ inches long, exclusive of calyx, and 1¼ inches broad. The colour is beautiful, the under side being orange-scarlet, and the upper a mulberry-crimson. They are not unlike large Gooseberries, having, like this fruit, numerous short hairs. The *rugosas* are well known and are undoubtedly highly useful shrubs in many ways. Apart from their beautiful flowers and fine leathery foliage, the fruits in the early autumn become most conspicuous. The single white variety has the best coloured pods. They are of a flat cheese shape and a bright orange-scarlet colour. The single rose-coloured kind has deeper coloured fruit, almost a mahogany shade, with scarlet underneath. Another beautiful Rose fruit is that of *Rosa alpina*. These are unusually long and narrow, and resemble some of the *Capsicums*. They are a bright scarlet, and, coming as they do on the smooth lilac-coloured wood, they are of very attractive appearance. The leaves are glaucous and nine in number.—PHILOMEL.

Crinum Powellii.—Where warm and sheltered positions exist in the garden this handsome subject is capable of fine results by reason of the exceptional characteristic boldness of its growth and the bold umbels of its flowers. All that is needed apart from the warm and sheltered position named is a specially prepared bed of deep soil with ample drainage. A knowledge of the bulbs and their size particularly will give cultivators a good idea of the depth necessary to accommodate such things, and at the same time provide a sufficient covering overhead. The latter, however, may be given from above in those circumstances where this is rendered necessary by the shallowness of the natural soil, or where a possible wet subsoil precluded the idea of descending to the requisite depth. Good loam and leaf soil in equal parts, and plenty of rotten manure worked in very deep, with some sharp grit, will do such things well, and it is necessary that the preparation should be good and genuine in every way, because of the time such things may remain when once well established in any given spot. Not less than 2 feet deep of good soil, and better still if 3 feet can be given, the whole being made tolerably firm below and also round about the bulbs. Above the bulbs this firmness should be moderated, otherwise crooked stems and the like may result. Usually this plant is grown in tubs in the greenhouse, and even here is a good subject with its bold stems towering away 4 feet or 5 feet high. At Kew, however, the plant is grown inside and outside, and of the latter examples may be seen right and left of the large Palm house now in flower, being represented by the above and likewise its white forms. In the

narrow border here the plants do well as a rule, but we remember seeing them in better condition than is the case this year.—E. J.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 30.

A MEETING of the fruit and vegetable committee was held on this date to examine Onions, Potatoes, Tomatoes, and Beets. The Onion breadth included many varieties both of those ordinarily grown in the winter and in summer. Long lines were sown of each variety in the autumn and again in the spring, whilst from the autumn sowing one other row was planted in the spring, each variety being thus represented by three rows. Some varieties, notably the Tripolis, usually regarded as the best for autumn sowing, withstood the winter fogs worst of all, and where plants did well their bulbs were in no case so good, handsome, or hard as were those of the brown or white Spanish forms usually sown in the spring. In not a few cases the bulb produce was very fine, but some few seemed superior both in excellence of stock, and in size and quality of bulb. Three were selected for three marks: Banbury Cross, a fine flattish round, style of Main-crop; Nuneham Park, a well-known fine white Spanish selection; Wroxton, fine globular form, first-rate both spring and autumn; and Rousham Park Hero, also very fine for both seasons. Sutton's A 1, a superb round Onion, especially good from the autumn sowing, and Cocoonut, a fine deep globular variety, both first-rate, had previously received awards. Very good also were Giant Zittau, Cranston's Excelsior, Eclipse, Trebons, and the Sutton's Globe. Potatoes were in great numbers. First earlies ran rather small, because of drought, but later ones were excellent, no less than thirteen new ones being selected for the cooking test. All were very fine croppers. Very little disease was seen, but a few varieties produced very coarse tops and few tubers, and some others, the great cropper Up to Date for instance, showing a good deal of growing out. Its dwarfier and earlier fellow from the same raiser, Challenge—tubers flattish round, handsome, and borne in great abundance—was entirely free from that defect, so also were many other strong growers. Eventually the committee, after tasting the admirably cooked samples of each variety, awarded three marks to Challenge; The Major, white, half long; The Queen, flattish round; Ellen Terry, great cropper, handsome white tubers; Devonian, kidney, white, superior flavour; Foo, kidney (from the Canary Islands), excellent; and Fishtoft Seedling, a wonderful cropper and fine for field culture. This is one of the best batches of new varieties seen at Chiswick for some time. Tomatoes showed comparatively little novelty. Three marks were awarded to St. Simon, fruits rich colour, medium size, very round and handsome; Stirling Castle, a great cropper, fruits medium size; and Peach Yellow, not a heavy cropper, but the fruits are of delicious flavour and of a pleasing sulphur-yellow colour, carrying a thick bloom. A variety named Semperfructifera, having small foliage and carrying huge clusters of small red Pear-shaped fruits, wonderfully pretty, obtained two marks as a decorative variety. The collection of Beets had suffered somewhat from the drought. The stocks were very good, but the best quality and colour were found in Cheltenham Greentop, which was recommended for a F.C.C. It was mentioned by Mr. Poupart that this was by far the most popular variety in the market, some growers having twenty acres of it. Three marks were awarded to a first-rate stock of Red Globe, the roots being very deep and dark in colour, with tops of more even form than are usually seen.

The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday,

September 6, in the Drill Hall, James Street, Westminster, from 1 p.m. to 5 p.m. A lecture on "The Disa" will be given by Mr. T. W. Birkinshaw at 3 o'clock.

ROYAL HORTICULTURAL SOCIETY'S SHOW, DUBLIN.

THE autumn show of the Royal Horticultural Society of Ireland was held in the grounds of Merrion Square. Though the weather was not fine, the attendance was very large. The entries exceeded those of last year, and the quality of both the fruit and flowers was very high. Among the particular features of the collection of cut blooms was the grand display of Begonias. The collection of forty-eight blooms, which obtained for Lord Ashbrook the challenge cup, value £10 (presented by Lady Ashtown), was a splendid exhibit. The variety of the blooms was no less remarkable than the fulness and richness of each flower. Messrs. Richard Hartland and Son, of the Lough Nurseries, Cork, were awarded a first-class certificate for three new specimens of Begonias, viz., Lady Ashbrook, a bright canary-yellow; Lord Ashbrook, salmon-pink, with white centre; and H. R. O'Kearney, cerise colour. Messrs. Alexander Dickson and Co., of Newtownards, showed a collection of Roses, and their stand of forty-eight blooms was awarded first prize. Their collection was also recommended by the judges for the certificate of the council. Messrs. McGredy and Son, of Portadown, were also among the successful exhibitors in Begonias, being awarded a silver medal and other prizes. Carnations were a particularly fine collection. Mr. Forbes, Hawick, took the silver medal for his collection. Messrs. Ramsay and Son, Ball's Bridge Nurseries, had on view a splendid collection of plants and cut blooms. The latter comprised Dahlias, Roses, Gladioli, Begonias, and Asters, and the whole constituted a beautiful exhibit. In plants, the group from the Botanic Gardens, Glasnevin, sent in by Mr. Moore, curator, commanded universal admiration. The rare and beautiful specimens constituted one unique feature of the show, and the fruit was particularly good. A great number of new exhibitors entered the lists this show, and the council of the society noted this fact with pleasure, as it indicates new interest in their work. Another interesting feature of the show was the appointment, for the first time, of a lady judge, Miss Curry, of Lismore, Waterford. The stands of Messrs. Hogg and Robertson and Sir James W. Mackey and Co., which were located on the grounds, and displayed a superb collection of bulbs and seeds, formed another feature of the show.

National Chrysanthemum Society.—On Monday evening last the executive committee of this society held a meeting at Carr's Restaurant, Strand, when Mr. T. W. Sanders presided. The minutes of the previous meeting having been read and confirmed and other routine business, such as correspondence, etc., dealt with, the secretary, Mr. Dean, gave a statement concerning the annual excursion, which was generally considered to be highly satisfactory. A vote of thanks was passed to Mr. Dean for the able manner in which all the details of the outing were carried out. The meeting next proceeded to the election of the arbitration committee, which is constituted as follows, viz., the officers, with Messrs. Moorman, Outram, and Fife, three to form a quorum. A vacancy on the executive committee that has arisen by the resignation of Mr. Daniels, who is leaving London, was filled up by the appointment of Mr. H. A. Needs. It was resolved that the details relating to the annual dinner should be left in the hands of a small sub-committee, and the following gentlemen were nominated for the purpose:—Mr. Simpson, Mr. A. Taylor, and Mr. George Gordon. The subject of a supplement to the official catalogue was raised, and the meeting decided that the work should be postponed until after the season's novelties had been seen. New members and several affiliated societies were elected.

PUBLIC GARDENS.

Prince George's Ground, Raynes Park.—The Grocers' Company have granted 100 guineas and the Leathersellers' Company 10 guineas towards the £10,000 which the London Playing Fields Committee are trying to raise for the purchase of Prince George's Ground, Raynes Park, as a playing field for Londoners of the poorer classes. The amount secured up to the present is about £6,300. The balance has to be found before Christmas, when the committee's option to purchase expires.

Roses for climbing through trees.—Will anyone kindly give names of Tea, Hybrid Tea, and Noisette Roses that can be counted on to climb through trees.—A.

*** We think you would find the following useful and free-growing Roses of the Tea, Hybrid Tea and Noisette tribes suitable for climbing through trees:—Aimée Vibert, Belle de Bordeaux, Cheshunt Hybrid, Climbing Captain Christy, Desprez à fleurs jaune, Gloire de Dijon, Kaiserin Friedrich, Longworth Rambler, Mme. Alfred Carrière, Mme. Berard, Mme. Marie Lavalley, Marie Robert, Pink Rover, Reine Marie Henriette, Reine Olga de Wurtemberg, Rêve d'Or, Souvenir de Mme. J. Metral, Waltham Climber No. 1. We should advise you if practicable to insert at the base of the tree a fair-sized cask filled with good compost consisting of fibrous loam three parts, decayed cow manure one part, and small quantity of bone-meal. By planting the Roses into this compost they have a far better chance of succeeding, and the cask would prevent the roots of the trees from robbing those of the Roses.

The weather in West Herts.—The past week, taken as a whole, was of about average temperature. The temperature of the soil at 2 feet deep has, however, fallen 3°, and at 1 foot deep as much as 5° since the last report was issued, but is still at both depths between 3° and 4° warmer than is seasonable. Rain fell on three days during the week, but to the total depth of less than two-tenths of an inch. The ground remains very dry, no measurable quantity of rain-water having come through either percolation gauge for ten days. With the exception of 1893 the past month was the warmest August experienced here during the thirteen years over which my observations extend. The hottest period was from the 11th to the 23rd, when the highest day temperature never fell lower than 75°, and on six days exceeded 81°. Rain fell on twelve days to the aggregate depth of 1½ inches, or less than half the average amount for the month, making this the driest August for eleven years. It was a sunny month, the mean duration of bright sunshine being about three-quarters of an hour a day in excess of the August average. The summer of 1898 proved a warm one, but not so warm as any of the three previous summers. The rainfall was considerably less than half the average quantity for the quarter. Indeed, with the exception of 1887 this was the driest summer in this district during the past forty-three years.—E. M., *Berkhamsted*.

Carnation book (H. W. Williamson).—The "Carnation Manual," published by Cassell and Co., contains the best information about Carnations (not illustrated). It gives no information on Pinks. That must be obtained from the gardening papers.—J. DOUGLAS.

Rust in Begonias.—My Begonias, Gloxinias, and the earlier Cyclamen, have suffered from rust. The house is a three-quarter space. I have air in at the top and also open a little the front sashes. The houses were painted and properly cleaned, and I do not understand how it comes about. Some of the plants I bought this year I have had to throw away. I must give up growing or discover if possible some remedy.—W. G.

Name of plant.—M. Moody.—Medicago Echinus.

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ORCHARD AND FRUIT GARDEN.

NOTES ON APPLES.

THERE are some few varieties of these hardy fruits that seem to have generally borne better this season than have others, and it is possible that on such a fact may be presently based the assumption that these are the most reliable varieties to grow. It is very easy to leap to conclusions that are not correct, although there can be no doubt but that some few varieties, notably Manks and Hemskirk Codlins, are invariably very good croppers, but equally there can be no doubt but that the best cropping trees of Apples this year are those that did not fruit materially last year. On the other hand, I have seen myriads of trees that fruited freely last year almost fruitless this season. That is a fact which has to be taken well into consideration when dealing with the erratic results of one of the finest blooms on record, as it does seem evident that the comparative inability of the trees to produce fertile bloom had more to do with the lightness of the present crop than had the dull, cold spring. Naturally if the weather did so much injury to the bloom, how was it that some trees have such good crops whilst others have no fruit? The prevalence of certain weather so universally last spring does not fully explain that, especially when we see these diverse results in the same garden or orchard, whereas the assumption that it is a question of fertility of bloom does explain it. But just as one swallow does not make a summer, so do not one or even two rather sparse seasons indicate that hardy fruit growing is a failure. So far from that being the case, we see this season almost record bush and Strawberry crops, and in many places really excellent tree crops.

Fruit reports are naturally pessimistic. They are the outcome generally, and this season particularly, of the exceeding bloom promise and the poor fruit produce. Still, seeing that the majority of the reports were written some time

since, and both Apples and Pears have materially increased in size since, there is more reason to believe that there is a better crop of these fruits, and Plums also, than was looked for earlier. The special trouble with Apples during the past month of August has been, beyond great heat, almost unwonted dryness. No doubt the soil has been very dry, especially low down, where the tree-roots are, so far out of the reach of the showers that here and there have fallen. There is now not the least expectation that there will be any material rainfall sufficient to go deep ere the leaves have matured, and when the leaves fall there will be no danger to the buds should very heavy rains come, as the sap will be resting or congealed. Indeed, there could hardly be a better aid to the production of a very fine tree crop of fruit next year than would be a saturating wet winter, as, with the wood so hard and ripe, and the branches so thickly studded with fruit-buds, only this soaking for the roots is needed to enable these buds to produce fine fertile flowers next spring. If the needed heavy rainfall does not come, the prospect of getting a fine tree fruit crop next year will be far from rosy. Although what crop there is of Apples seems to be fairly distributed between dwarf and tall or standard trees, yet all sections of trees have been largely feeling the unusual dryness at the roots which has so long prevailed. If the dwarf trees give the finest fruits, they shed their fruits the most readily. Thus it may be assumed that, dry as are the subsoils, and deep, too, yet the trees which have their roots deep down in the ground are finding more moisture than those whose roots are near the surface. Of course, such dwarf trees could be readily benefited by giving them liberal soakings of water, but in how few cases can such supply of moisture be furnished, especially where all other crops and also lawns and shrubs are needing moisture even worse. During such a season as the present there could hardly be a boon more valued by the hardy fruit grower than a liberal supply of liquid sewage. That,

however, instead of using for the benefit of our tree and other crops, we prefer to pour into our rivers and the sea, thus wasting that of which we have such absolute need. It is one of the difficulties surrounding Apple culture on an intelligent basis that whilst trees thrive best, and find most moisture for the roots, in low-lying situations, especially in alluvial valleys, yet such positions are, of all others, the most dangerous to the bloom in the spring. How often have we seen the bloom on trees in valleys almost destroyed by spring frosts, whilst the bloom on trees planted on the higher ground, and especially on hillsides or airy slopes, where, of course, there is less root moisture, is probably quite unharmed. This fact shows the importance of choosing suitable and airy sites for Apples rather than those which, if on rich holding soils, are yet readily influenced for evil in the spring by humid atmospheres and mists. There is rather a craze for large-fruited varieties, doubtless because such fruits wear so noble an aspect on the exhibition table. But the best average fruiters do not produce the largest fruits, as the two Codlins already referred to indicate. Then of ordinary kitchen and capital market varieties there are few better average croppers than are Duchess of Oldenburg, Stirling Castle, Cellini Pippin, Frogmore Prolific, Cox's Pomona, and Lane's Prince Albert. An extensive orchard planted with these varieties alone for market would be well furnished, and very probably, taking an average of years, the product from a given number of trees would be greater than from so many of any other eight varieties. None are coarse growers; they begin to fruit fairly early, and may be planted closer together than can other famous and favourite varieties that have not the same average cropping qualities. The practice of growing Apples as espaliers is not too common, but whilst these trees are few, I have noted that from year to year they seem to fruit with exceeding regularity. Such trees are easily cleansed and pruned; as easily protected from birds by net-

ting; and not being swayed by wind, fruits are readily thinned, and these invariably come fine and handsome. A. D.

Apple Kerry Pippin.—This old-fashioned but highly esteemed Apple will soon be fit for table, and those who prefer a crisp-eating aromatic-flavoured fruit will find it hard to beat while in season. It is one of those sorts which produce good crops of fruit in most seasons, and can be relied on. The fruits are small it is true, but quite large enough for dessert. It is a hardy grower and succeeds equally well grown in any form of tree. A good-sized standard or a bush tree is capable of carrying a great weight of fruit, so that one or two trees at the most would be a sufficient number for providing fruit for private consumption.—A. W.

Strawberries in frames (F. W. M.).—In asking for information respecting the culture of Strawberries in cool frames, we assume that you refer to planted-out ones. For that purpose make up a bed on a warm border the exact dimensions of the inside of a wooden frame. Let the soil be good, and, of course, it will be several inches higher than the surrounding soil. Plant this 9 inches apart with strong-rooted runners, the very earliest laid into small pots, from some good variety. Some other soil or long manure may be banked against the sides of the bed or beds until January. Then this may be chopped away and the frames dropped over the beds. That will bring the Strawberry plants near to the glass when the lights are on. Give the plants plenty of air in open weather. They will bloom three weeks earlier and fruit before the outdoor beds.

Apple Scarlet Nonpareil.—My experience with this Apple may be uncommon, but I find it to be one of the shyest bearing varieties grown here, either as a garden bush or orchard tree. I do not remember having had anything approaching a good crop. This I much regret, as when in season it is one of the best dessert Apples. London in his catalogue of Apples describes it as a good bearer, and this character has been given it by different writers, and more especially by those who live near to and south of London, so it probably succeeds best in warm localities and is not suited for universal culture. The tree here makes an abundance of lateral shoots and keeps very healthy, but does not increase much in stature. I am not at all sure of the stocks on which it is growing, and these may possibly be the cause of its shy bearing.—J. C. TALLACK.

Work amongst Strawberries.—Being tired of waiting for rain, I have had the whole of the Strawberry plants set out in their permanent quarters. The plants were thoroughly soaked previously to being knocked out of the pots and were again well flooded as soon as planted. So far they look quite fresh and have commenced to grow, but watering will have to be followed up to keep them growing. When opening out the holes to receive the roots of the plants the soil was found exceedingly dry, the previous crop having been early Potatoes, and it will take quite twenty-four hours' steady rain to moisten it any distance down. The dry weather, on the other hand, has been of great assistance in getting plantations cleared of the oldest foliage, runners and weed growths. The plantations, too, which were due for clearing off, having been on the ground three seasons, were also grubbed up. These after laying a day or two became so dry that, together with the rubbish from the other plots, they were able to be burnt on the spot. This saved the labour of wheeling the rubbish away and the ashes became serviceable for digging in when preparing the ground for a very early crop of spring Cabbages. The oldest of the remaining plantations will have a mulching of thoroughly decayed hotbed material spread between the rows as soon as time and labour will admit. This will be well worked up round the collars of the plants, as the crowns are raised too much above ground to allow them to run the

risk of passing through the winter without such protection. In addition to its shielding them from the harmful effects of very severe frost, it also benefits the stools to a marked degree, as fruits are pushed out into the material in early spring. These, it is almost needless to say, are of the greatest assistance to the plants when perfecting the crop.—A. W.

GOOD APRICOTS FROM SEED.

TO THE EDITOR OF THE GARDEN.

SIR,—I am enclosing with this some specimens of seedling Apricots. The four fruits wrapped in tissue paper are from one tree, and I think it is a very fine Apricot indeed, with a flavour equal to any I have ever tried. The tree is a first-rate grower and quite distinct from any of the named varieties, as also are the fruits. The single fruit (unwrapped) is a later variety and very good also. None of the fruits are quite ripe, but it was necessary to pick them to keep them from the insects, and I think they will ripen with a day or two of storing. Both were raised in Mr. Paley's garden at Ampton, and are from the original trees. I hope to be able to send you fruits of some seedling Peaches another year.—J. C. TALLACK, *Livermere Park Gardens.*

* This is a very interesting communication. They were large and well-grown Apricots, above the average size, and excellent in flavour, although gathered slightly before their time. The Apricot tree shows more than any other the evils, to which we have frequently called attention in THE GARDEN, of the art of grafting. Except in a very few districts in England, there is scarcely a fruit garden in which the Apricots are in a healthy state; and this has been going on for generations, judging by the old essays in books which have attempted to account for the gumming and always evident disease in gardens. We think it is simply owing to grafting the plants on a wholly different one—the Plum. There is too much difference between them to allow of perfect health, and we think that if every person interested in Apricots were to sow the seeds of good kinds he would be able to settle the question for himself. He might raise inferior fruits, but he might get very good and even better ones than are now in cultivation by growing them in the cordon way until they fruited, when it would be easy to pick out and reject the bad. It would also be surely worth the while of some nurserymen to layer some of the very best kinds to see if we should in that way get over the great trouble of gumming.—Ed.

Figs in pots (St. Petersburg).—We have read your letter carefully through, and find it exceedingly difficult to furnish you with a reply satisfactory to you. Really your practice seems to be so identical with the best prevailing here that it is almost impossible to find the weak spot in it. We can but infer that you may be troubled with some subtle fungus amongst your Figs in pots that attacks the fruits at a particular period in their swelling, causing them to prematurely fall. With us such trouble is seldom, perhaps never, heard of. There is no more successful illustration of Fig culture in pots than can be seen in the Royal Horticultural gardens at Chiswick, a few miles west of London, where in a large, roomy span house the plants in pots, ranging from 9 inches to 14 inches over, do wonderfully well. They include all the best-known varieties, are grown in a moderate heat, have the floor of the house kept fairly moist, and fruit abundantly over the several summer months. All round the sides the plants are on open shelves, and in the centre on a solid soil-bed, but all alike do well. The position is very unfavourable in the winter, as the locality is very subject to fogs, but of course then the plants are at rest. Can you try syringing yours, and the house also, with the Bordeaux mixture—copper sulphate and lime—after the leaves have fallen, and are gathered up and burnt? Of course, no such dressing could be applied when the plants are in fruit. The cli-

matic conditions surrounding your plants, of course, differ materially from ours. Fig trees in pots, not possessing that rapid power of recuperation found in the free-grown wall trees, recover from the cutting out of large, old wood badly, canker sometimes resulting. Perhaps coating the wound with Stockholm tar would enable it the sooner to heal over.

Vine borders.—When I recently saw the really superb crops of Grapes, the bunches so fine, so numerous, and the berries so large, carried by the Vines at Tewkesbury Lodge, Forest Hill, I was not at all surprised to learn that the primary constituent of the borders was a stiff clayey turf taken from the surface of the hill on which the vineries stand, and the base of which is a mass of solid harsh clay. It is very evident that many Vines failures come from lack of substance in the borders. The loam used is at the outset too light and porous. Then there is added to it too much light or gritty material, and usually far too much of soluble matter in the shape of manure. The border may be solid enough for a few years, then much of the matter in it is dissolved. It is then very porous, soon dries, the roots seek elsewhere for moisture and fail to find food, and bad colouring, shanking, mildew and other evils follow, all arising from the same cause—too great porosity of the border. These at Forest Hill have been made some nine years, not being at all changed, but simply from time to time added to. Because of the substance of the chief constituent in them, the Vines are in splendid health and are carrying superb crops. The gardener, Mr. Taylor, is a well-known exhibitor, and his products show that although for seven years past almost myriads of prizes have been won by the Grapes taken out from these comparative small vineries—for there is in all but a span range 75 feet by 25 feet—the bunches this year are as fine and as numerous as ever; indeed, the Vines and their crops represent a triumph in Grape culture. The very stiff soil of the borders is partially tempered by the mixing with it of some burnt clay and wood ashes with a little lime rubbish. Still, the virtues of the stiff soil are too well shown to be questioned.—A. D.

RIPENED WOOD.

THERE is no detail of greater importance in fruit culture than that of thoroughly consolidating the growth made during the summer. But many growers have a very indifferent notion as to what the term ripening means. It is not, perhaps, a good term, as it is so frequently used to denote when fruit is fit for use, and, as the ripening process is usually accelerated by sunshine and dry heat, we are apt to forget other aids to development. The more the wood of all fruit trees grown under glass is exposed to sun and air the better, but these are not the only factors, and I think I may say they are not the most important. It is too much the custom to look on a fruit house that has perfected its crop as a house that needs no attention beyond throwing it open wide to every wind that blows. Peach and Nectarine trees that have been carefully tended until the fruit is finished are left to do their best with often a lot of red spider and other insects upon them. Only recently an experienced (?) fruit grower told me he never syringed his trees after the fruit was gathered, as it "prevented the wood ripening." In his case the trees were healthy and clean, and of course syringing was not so much needed, especially as root moisture was not being neglected, but in numerous cases that have come under my notice trees are left with the borders absolutely cracking for want of moisture, and foliage flagging owing to the ripening process that was supposed to be going on. Now as a matter of fact healthy trees in autumn, after the crop has been gathered and the full amount of air put on, require even more water than when the fruit

was ripening. The borders are more exposed to drying influence, and if the foliage has been well preserved the evaporation from this is very considerable. All useless wood, *i.e.*, wood that has fruited and is not required for laying in, should be taken out immediately the crop is removed, which will allow the foliage on the remaining shoots to have the full advantage of sun and air, and by properly carrying out their function of sap-elaboration to strengthen the buds at their bases. Many varieties are prone to crack if very moist at the root when the fruit is finishing, and this makes it the more necessary to give a thorough soaking immediately the pruning is done. Wet every portion of the border, and on hot days well wash the foliage with the syringe at least twice. The parts of the trees nearest to the glass, or the apex of the roof in sunny corners, and over the hot-water pipes should come in for especial attention, applying the water forcibly and not using it too cold. Increase the air immediately the fruit is gathered, until in a few days the house may be thrown open entirely. It is the same with Vines and all tropical fruits; throwing a house open and allowing the roots to get dry, the foliage at the same time being crowded and covered with insects, is supposed in some mysterious way to act beneficially on the next season's crop, but a little thought on the part of those in charge must show that it is wrong. Much more depends upon the leaves being kept healthy until the last than is generally supposed. And they fall quicker when the proper time comes, for, of course, the loosening of the stem and fall of the leaf is just as much part of the work of the Vine or other tree as is the bursting of the buds in spring and the subsequent development of the fruit. And this is the point I wished most to emphasise in this note. It is the greatest mistake to substitute roasting for ripening. To develop the wood properly, and to make it capable of producing a good crop of fruit, all the natural forces of the plant must be kept going. Growth is one part of Nature's scheme, rest is another, and to try and force a Vine or other fruit tree to ripen its wood prematurely is just as wrong as undue haste in the earlier stages of forcing.

With regard to late lateral growth on Vines a good deal of misconception exists, and this, too, has its bearing upon the point at issue. Here, as in many other details, the middle course is the safest. I like to see a little late growth, and especially on young Vines. It keeps the sap moving and encourages the roots to activity. Very close stopping, or the entire removal of laterals, may possibly cause eyes to push that are better dormant, but to allow the growth to ramble away at will is wrong, leading often to shading of the principal leaves and doing more harm than good. Where there is room I let about four leaves form before pinching, but otherwise continue to stop at the first leaf when this is about the size of a crown piece. Respecting bud dropping on very early Peaches, which some growers attribute to too liberal treatment after the fruit is gathered, I think this can only happen after a check of some kind. I only grow Waterloo of the very early varieties, and speaking from my own experience of it can say that I never get the least trouble in this way, though it is in the same house with much later kinds, and if there was anything in the over-ripening theory I fancy this would suffer, as even the late kinds are treated as advised above.

H. R.

Diseased Melon root (*An Old Subscriber*).—The roots are infested by eel-worm. This much-to-be-dreaded pest is more often destructive

among Cucumber plants than those of Melons, and in either case is difficult to contend with when once it is established in the roots. Little's soluble phenyl, a strong disinfectant that chemists supply to order, applied in good time is to a certain extent remedial, and can be strongly recommended as a preventive. Two ounces, or a wineglassful, to two gallons of water will most probably be found safe and effective. Light spongy soils and decaying vegetable substances or much manure favour an attack of eel-worm, and their use should be avoided. Besides, Melons succeed best in a strong loam to which fine mortar rubbish or a sprinkling of artificial manure has been added. The roots sent were not so knotted as might have been expected, and I should not be surprised to learn that the old-fashioned but faulty plan of drying off the plants at the roots when the fruit had reached the ripening period had been followed. In this case the usual early collapse of the plants would have been hastened by the eel-worm attack, but the latter not be solely to blame for the failure. Next season strong loam that has been exposed to the action of frosts should be employed, frosts destroying any eel-worms there may be in the soil, and in addition a free use of hot lime, both for dressing the walls and any soil there may be under the staging, should be resorted to. Allowing the soil to become very dry underneath, through merely wetting the surface instead of giving a thorough soaking, has been responsible for bad eel-worm attacks in Cucumbers, and might also in the case of Melons.—W. I.

KENTISH FRUIT CROPS.

RASPBERRIES.

MANY excellent articles have from time to time appeared respecting the culture of this useful and delicious fruit, but Raspberry growing, as it concerns the majority of private gardeners, consists of looking after the welfare of a few rows of canes trained to permanent wires across the quarters of the kitchen garden. The crop under these conditions is more or less a permanent one, and methods of cultivation are generally well known. The end in view is to supply the requirements of the kitchen, reserving just the pick of the fruit for the dessert table, and, as the crop under favourable conditions of culture is a fairly certain and prolific one, it is not a source of much anxiety to the gardener. There is, however, another phase of Raspberry culture, namely, that which supplies the public, not only with ripe fruit in the season, but with jam all the year round, and the manufacture of various drinks for which the juice of the Raspberry is largely used.

In the days that are gone by, when every good housewife procured her own fruit and transformed it into home-made jam, wholesale fruit growing was not the business it is at the present day. Comparatively few people now-a-days indulge in home-made articles of food, and every season tons of Raspberries are bought up by preserve makers and converted into jam. Whatever may be said against the wholesale manufacture of commodities such as this, there is one sound argument in its favour. It has created a demand for immense quantities of fruit, and this demand is being largely supplied by cultivators of land who have found that, by altering their methods of procedure in accordance with the requirements of the times, they have fared better than if they had followed lines that paid well enough in their day, but have ceased to be profitable. Foreign competition is often set up as being the skeleton in the cupboard of English fruit growers, and so far as hard fruits are concerned the foreign grower is a serious rival. But with soft fruits—and Raspberries are a case in point—there is little to fear in this respect, as the nature of the fruit pro-

hibits it being carried over the long sea journeys. The industry, then, is our own, and the large quantities of Raspberries used for different purposes are supplied to a great extent from British land by British labour.

But where does the fruit come from? You may travel over county after county and find in every garden Raspberry canes to supply the wants of the household, but not a single instance in which the fruit is grown on a large scale for sale. The presence of the fruit in private gardens everywhere is evidence that the Raspberry is not fastidious as regards soil and situation when grown under favourable, well-defined conditions, and yet it appears that it is only in certain favoured localities that Raspberries will lend themselves to field culture, for, like many other fruits, we find them confined to localities. Kent is the home of all British fruits, and, by taking Sevenoaks as a centre, a tract of country in the vicinity may be traversed which is responsible for the production of more Raspberries, probably, than any similar area in the United Kingdom. Strawberries also are at home, and a combination of the two forms the staple crop of many of the farmers. The rich, strong loam resting on the famous Kentish chalk is well suited for the requirements of the Raspberry, and out in the open fields may be seen canes of a character so strong, sturdy, and fruitful, that they would be the envy of many a gardener who has tried all the devices he knows to get such results, but without success.

The Raspberry season is now practically over. It follows closely on the Strawberries, and after the rush of the former fruit is past growers turn their attention to the latter. In some instances the earliest and finest of the fruit is picked and sold in small punnets for dessert purposes, but this trade is comparatively a small one. The Kentish grower likes to dispose of his fruit wholesale. Much of it goes direct to the jam-maker, who makes arrangements for the purchase of what he requires beforehand. Many tons also pass through the market, some in the neighbourhood of the metropolis being transferred from the fields by road, and large quantities are also sent to all parts by rail. The Raspberry grower has to be very much on the alert when the fruit is ripe. Unlike some other fruits, Raspberries cannot be gathered before they are ripe, and if left on the canes too long they are spoiled. A field at picking time is an interesting sight. Huge piles of tubs or earthenware vessels are ready to receive the fruit which a motley gathering of men, women, and children, the latter invariably stained almost beyond recognition with the juice, proceed to fill. When the fruit is dead ripe it sinks in the vessels and the liquor rises to the surface, thus necessitating careful handling in transfer, but it is no great detriment for preserve making, as the whole is deposited in the vats. For jam-making the fruit is generally picked without stalks, and it is a period of anxiety to the grower till the crop is disposed of. The average crop this season has been good and weather favourable for picking, though, as in the case of other small fruits, there have been complaints about prices being low.

The advice generally given for the treatment of Raspberries after fruiting is to immediately remove the old canes. No doubt this is right where circumstances permit it, but the Kentish grower with his acres, after the rush of picking is over, has many other duties more pressing to claim his attention. The Raspberries have to wait till the short days of early winter come along, and then the plantations are taken in hand, suckers are removed for planting else-

where, old canes cut away and burned, and everything set in order for the future. The general custom is to plant in rows, leaving sufficient room between for cleaning and surface cultivation, which is done by hand or with horse labour. Raspberries are gross feeders, and those who get the best results know better than to be niggardly in the way of manure. Good farmyard manure is the best, but not always obtainable, and in its absence many tons of London manure are applied to the Raspberries. Stimulants are also largely used in the shape of fish manure, guano, and chemicals with varying results, and the importance of all matters dealing with good cultivation has bearing on the success of the Raspberry crop.

Among market growers the idea of providing supports for the canes is out of the question, and therefore only such varieties are grown as are sturdy enough to be self-supporting. Norwich Wonder is largely grown in Kent for market purposes, and is a favourite on account of its sturdy habit and prolific fruiting qualities. The Kentish grower, however, is not conservative in the way of varieties, but cultivates those that suit his purpose. In addition to the above, one may see large areas of Carter's Prolific, Superlative, and Northumberland Fillbasket, all of which succeed well in the locality referred to. The period over which the stools continue in a satisfactory state of bearing depends largely on the treatment and condition of soil and situation, some plantations continuing to fruit over double the time of others.

One great bane of the Kentish grower in the way of enemies is the Raspberry weevil (*Otiorrhynchus sulcatus*), which often plays havoc among the fruit. Everybody connected with the industry knows it, and various ways and means are adopted to effect its extermination. But the Raspberry weevil, like its close relative that gives trouble in the vinery, is a tenacious creature, and encased in its hard covering is safe from the effects of insecticide. It is a night-feeding insect and destroys the fruit in an early stage. As prevention in all cases is better than cure, growers find that by destroying old canes and keeping the surface soil clean and in good condition the damage caused may be reduced to a minimum, as the methods adopted in small gardens for the eradication of pests are scarcely practicable when applied to acres.

In spite of the cry of the pessimist about bad times and poor returns, the Raspberry-producing section of the Kentish fruit-growing fraternity appears to hold its own. They have many things to contend with, but the area under this crop is gradually on the increase, and as long as the English masses buy jam, manufacturers will doubtless supply it, and the shrewd, practical men of Kent will not be behindhand in the way of fruit.

G. H. H.

Repotting Cherry trees (May Duke).—The time to repot fruit trees is just when the leaves have commenced falling, at which period they suffer no ill effects from rather severe handling, and if the operation is completed so early, many fresh root fibres form before the winter arrives. The 12-inch pot is a good size in which to grow fruit trees, and if "May Duke's" Cherry tree is in a smaller size a shift may be given, taking care to loosen the tangled roots, and removing some of the old soil as well. If the tree is to be returned to the same size pot as before, the old ball of soil and roots must be reduced considerably. In either case prune the broken roots with a knife, shortening them somewhat, and repot firmly in a mixture of two parts of good loam, fibrous from choice, to one of partially decayed horse droppings, adding a sprinkling of old mortar refuse and bone-meal. The tree should be watered

if the new soil is at all dry and be left in the open during the winter, merely protecting the pot with a covering of strawy manure. In all probability there are only short stiff growths on the tree, and in this case no pruning is necessary, but any long straggling growths may be shortened sufficiently to restore a good balance to the tree, which should be done late in the winter rather than now. A light airy position in the greenhouse should be assigned to the tree before the buds expand. Black Tartarian would be found an admirable companion to May Duke, the tree giving a natural succession of fine fruit of the best quality.—W. I.

NOTES OF THE WEEK.

Carnation Nox is the darkest of dark crimson or crimson-maroon shades, too dark indeed to produce really good results in the garden, as beyond a certain limit these exceedingly dark forms are more or less gloomy and forbidding—certainly the reverse of bright and attractive.

Centaurea ruthenica.—The yellow Cornflower, though distinct enough in its heads of flowers, is not one of the best habited of hardy plants, yet it is one of those plants that specially good culture considerably improves, and better still if grouped in a free manner in an isolated position rather than with the ordinary things in the border. In this way the plant is of more than passing interest and beauty.

Podophyllum Emodi.—The two seasons of the year when this plant is conspicuous are when the handsome foliage is fully developed, or later in the year when the brilliant scarlet egg-shaped fruits have perfected their fine colour. That so fine a fruit should result from this plant is of itself an interesting matter, and still more so when in full colour, for then it is a source of considerable attraction.—E. J.

Physostegia virginica alba.—Though by no means a new or even a scarce plant, this is not made so much use of as its merits justify, for it is quite a showy subject when freely grown in good soil. It is quite among the hardest of border flowers, producing its spikes of white flowers somewhat freely. The plant is benefited by being divided every second year, replanting only the youngest and freshest portions.

Calandrinia Tweedi.—Judging by the behaviour of a group of this distinct plant in the rock garden at Kew, there would appear some likelihood of its being a profuse flowering species when more established. Should this prove to be the case, and the perfect hardiness of the plant also ensured, it will be a valuable addition to good alpine. The blossoms are of good size and possess quite an uncommon tone of colour, even among the variable shades of a good collection of choice subjects.—E. J.

Abutilon Golden Fleece.—Probably no other member of this family can boast of so fine a colour or of being so great a bloomer, for it is in this respect well-nigh perpetual, provided a greenhouse temperature be given it. During the summer months, and, indeed, far away into the waning months of the year, the plants, when covering space on the glass roof, are one mass of bloom incessantly, the fine colour, apart from the endless number of drooping blossoms, being quite ample to attract attention.

Rose Grace Darling.—Quite early and moderately late also in the year, this is a fine and telling Rose in the garden, particularly where a large bed may be given wholly to this one variety. The blooms are both full and very handsome in appearance, though it must be confessed that the colour is not the best to endure the strong heat of a summer like the present. At the same time, the profuse flowering of the variety is enough to make it worthy of a special position where the intense heat would not reach it.

Lobelia and Phlox.—Both subjects here mentioned may be regarded as of a decidedly moisture-loving nature, which is one reason why they may with impunity enjoy or share each other's company. Yet, apart from this, an excellent effect may be secured by grouping, say, a good dark-leaved form of *Lobelia cardinalis* with

a pure white *Phlox* of the herbaceous section. Equally satisfactory is the fact that both plants flower at much the same time, or at least sufficiently near that the desired result may be secured. To be quite vigorous and free, however, the plants should not be far removed from moisture.

Colchicum byzantinum.—This Meadow Saffron has been the third in order of flowering in my collection this year. A clump is now exceedingly effective and beautiful with the large, prettily-coloured soft purple and white blooms. It is sturdier in habit than many of the genus and less liable to injury from stormy weather. Like all the other Meadow Saffrons it requires a "carpenter" to show it to advantage. Some of the Mossy Saxifrages are well adapted for this purpose, and many other plants will readily occur to those acquainted with the dwarfier plants.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Mutisia decurrens.—Last year I sent you some blooms of *Mutisia decurrens*. I now send you three blooms enclosed with this note. The early frost and winds destroyed the young shoots, but, notwithstanding, I have had blooms for the last eight weeks. It is a pity this plant is not grown more extensively. It has stood five winters with me, and with no protection. The colour is unique at this time of year, being not yellow, but a decided orange. I am exposed to every wind, so my plants are not so good as those at Easter Duddingstone (the late Mr. Jenner's). But surely it is not worth growing?—J. MOWBRAY WATSON, *Winthorpe, Ravelston Dykes, Edinburgh.*

Bocconia microcarpa.—I send a specimen of *Bocconia microcarpa*. It is very like *B. cordata*, of which also I send a specimen to show the difference. Though similar, *B. microcarpa* is really distinct, having rosy buds, which give a pretty appearance, and leaves which are rather less cut on the margin. I received the seed from Messrs. Vilmorin-Andrieux and Co., who gave a cut in their supplementary catalogue of last year, which I enclose. They do not give the country, and the name does not occur in the "Index Kewensis." The plant appears to be a good one and a distinct acquisition. There is a fine specimen in the herb ground at Kew.—K. IRWIN LYNCH, *Botanic Gardens, Cambridge.*

Helianthus multiflorus maximus.—This is perhaps not only one of the easiest grown of hardy Sunflowers, but certainly one of the boldest and most handsome. The large single flowers are also of a distinct shade of yellow, paler than in the other single forms, yet distinctly pleasing and showy. Freely grown, the plants attain from 6 feet to 7 feet high, and in its bold self-supporting character has few rivals among hardy herbaceous plants. Like all others of the Sunflower family, this one delights in a deep and rich soil, which its great vigour speedily exhausts if not replenished. By rooting a few cuttings now and then the old roots may be discarded and a young, vigorous stock retained. Much the same results ensue when the younger or outer shoots of the clump are removed and planted in fresh ground.

Zauschneria californica splendens.—The plant here mentioned would suggest an improvement on the typical species, which, when well grown, is perhaps one of the most brilliant of all hardy flowers. But it prefers a deep though light and rich soil in which it may the more freely produce its stoloniferous shoots, and thus take care of itself during hard and trying winters. It is not usual for the plant to perish outright in warm, well-drained soils, but in the reverse, and where clay is too freely incorporated, the plant is less hardy. Yet it is so brilliant and effective, spreading itself into good patches where it can travel quickly, that it is worth making preparation for. The variety *splendens* is somewhat later in flowering, and has more woolly and therefore very distinct foliage. Indeed, so well-marked a plant would appear well-nigh worthy of specific rank, though what constitutes a species is a problem difficult to solve, and by no means easy to define.

ROSE GARDEN.

ROSE SOUVENIR DE LA MALMAISON.

THE Rose tree illustrated is worked as a dwarf standard on the Brier. The stem is only about 2 feet high. The girth of stem is 1 foot, but at the graft measures 1 foot 10 inches round. Total height of tree, 9 feet; total width through, 13 feet. At the time the photo was taken (middle of July) it had over 300 expanded blossoms. The tree is very healthy,

was pruned back rather hard at the end of March.

GEORGE W. F. HARDY.

Loughton Lodge, Loughton, Essex.

Rose Archduke Charles (China).—This is a variety of remarkable variability. Sometimes the expanded flowers are pure red; at others the centre petals are light blush, reflexed with white, and the outer petals of rich velvety crimson. It is fairly double, a really good grower, and altogether an excellent China Rose, being most certainly too good a variety to be lost sight of. Though classed as a China, it appears to be very

considerable. In Waltham Standard an excellent summer and late-flowering red Rose has appeared, every growth being crowned with buds and blossoms. I should say, with the exception of General Jacqueminot and Ulrich Brunner, there is no better late-flowering crimson variety than this one. But this perpetual character is only one of its good points. In its perfectly-formed blossoms and substantial petals we have an ideal show Rose. The petals are beautifully arranged in a circular outline, and slightly recurve at the edges, and the high centre is just the exhibitor's standard of perfection. This Rose appears to be intermediary between Star of Wal-



Rose tree Souvenir de la Malmaison at Loughton Lodge, Essex.

and has been free from both aphids and caterpillars, and is now making good growth for second crop of bloom. It is a general impression that standard Rose trees are very short lived, but this tree must be at least thirty years old. My soil is a stiff, clayey loam. The view you have selected, viz., the west side, does not show nearly so many blooms as the east side had, but makes a better photograph, as shrubs and trees in the background interfered with the detail on that side. The tree

nearly a Tea-scented, differing greatly from the Chinas in its erect habit of growth. One would take it to be the parent of that beautiful Rose Duke of York, as it has many of the peculiar variations in colour of this now very popular kind, but the two varieties are perfectly distinct, and both should be included in every collection of garden Roses.

A fine new autumnal Rose.—As a writer remarked recently, our collection of good autumnal Hybrid Perpetuals is very meagre, and when we do receive a good one its value is

tham and E.Y. Teas. It is, however, a far better grower than the latter, and most fragrant. I consider it a splendid Rose both for the exhibitor and for the novice, and I predict for it a prosperous future. —PHILOMEL.

Rose leaves eaten (M. E. Champion).—The holes in your Rose leaves are rather peculiar. Some are undoubtedly, I should say, caused by the grubs of sawflies, and I found two small ones about a quarter of an inch long on the leaves. They had evidently caused the small white patches. The larger holes and notches are, I

believe, caused by a fungus belonging to the genus *Phyllosticta*, or *Cercospora*. The holes in your Begonia leaves are certainly caused by one of these fungi, but I cannot be quite certain of those in the Rose leaves. The fungus causes the leaf to wither at a certain point, and gradually spreads; the withered part drops out, leaving a hole, which gradually increases as the fungus destroys the leaf. This I believe to be the course of things. As to the little insects that you describe, that are so nimble that they can neither be caught by the fingers nor touched by syringing the plants, they are nearly allied to the common frog-hopper. They may be captured by holding a piece of cardboard, or calico stretched on a light frame, an old Palm-leaf fan, or anything of a similar nature, newly painted or tarred, under the leaves, so that when the insects are disturbed they may jump on to them and thus be caught. —G. S. S.

DWARF TEA ROSES WITH RED FLOWERS.

PERHAPS these are not so much admired as those kinds of more delicate shades, but red Teas have their especial value, such as for winter flowering, when a little bright colour is always welcome, and also for garden decoration when harmoniously dispersed. The most beautiful of all is

PAPA GONTIER.—It is a charming variety in the bud state, with flowers of a lovely clear rosy crimson colour, of long shape. As a winter Rose it is unsurpassed in its colour. Although it may be grown in great perfection in this country, it never approaches the great vigour that it does on the Riviera. I believe Lord Brougham has immense quantities of this Rose in his beautiful garden there. The next best is certainly

FRANCIS DUBRIEUL.—Its blossoms, especially in the bud state, are most beautiful in form. The colour is velvety crimson, reflexed with cerise, and there is a peculiar and attractive black velvety shading about this Rose that at once commands attention. It is certainly the best Rose of its colour, but for cutting it is rather disappointing, as the blossoms have a peculiar manner of bending over, which mars an otherwise fine Rose.

SOUVENIR DE THERESE LEVET is frequently met with in show boxes, and is beautiful when well developed, but it requires much thinning of the buds and side shoots to get it to this perfection. The outer petals are like butterfly wings, and give this Rose a very uncommon appearance. The colour is bright red with a deeper shading. Its growth is very slender, but fairly vigorous.

PRINCESSE DE SAGAN resembles an improved China Rose. Its colour is a very intense crimson-scarlet, but the individual blossoms are not equal to those of the last-named variety. It is, however, a better garden Rose and most decorative, being exceedingly free-flowering.

MARIANO VERGARA would doubtless make a good show flower. It is, however, not so vigorous as one could wish. The colour is very brilliant magenta-red, and it does not fade.

MME. LOUIS LAURAUS is fine in the bud, which is of great substance and elongated. It is far too good a Rose to be discarded. The only bad quality is that the centre petals of the expanded flowers overlap. If it were not for this it would take a prominent place, for its petals are of great substance. Growth is vigorous, and the colour a deep red, with a bronzy hue sometimes pervading the centre of the flower. The defect of the centres in the open flowers is not manifest in the beautiful buds.

GENERAL SCHABLIKINE.—This is a small Rose of the type of the red Safrano. Its flowers are coppery red, and it is useful as a garden variety.

The last variety to notice, although a Hybrid Tea, is too good to be omitted here, and his one is

PRINCESS BONNIE.—It is of delicious fragrance, extremely free-flowering, and the habit of growth

and style of flowering are very distinct and attractive. The colour is a brilliant and rich crimson, and altogether it is a Rose everyone should possess for cutting. PHILOMEL.

THE MACARTNEY ROSES (A. BRACTEATA).

THESE very beautiful and distinct Roses have been most gay during the month of August, and they really deserve more consideration. It is true they are not quite hardy, and doubtless a south or west wall, not very high, is the best place for them. Failing such a spot, they may be grown in a sheltered border, and if moulded up each winter they will come out as fresh as ever the next spring. The type was introduced from China about the end of last century, and even to-day there are few single Roses more beautiful. Then again, the late flowering period of these Roses is a valuable trait in their character, for there are few single Roses that blossom so late. Many growers prefer the double kind *Maria Leonida*, but I think the single white is the general favourite. Its blossoms are produced singly, and are fully 2½ inches in diameter. The buttercup-yellow stamens are very numerous and are quite 1 inch in diameter, giving the flower a beautiful appearance. The growths have a downy appearance, and the foliage is very small and waxy. The leaves are produced in sevens and nines, and there are two or three sharp prickles at the base of each leaf-stalk. From a close inspection of this Rose I am inclined to think that the new *Wichuriana* is the offspring of it, but the latter is much hardier, and, as is well known, has an extraordinary power of producing long running shoots.

Maria Leonida has delightful Tea-like buds, but only about half their size. It resembles *Rubens* in colour. The calyx is very quaint, reaching, finger-like, almost to the top of the petals, and covered with tiny reddish hairs. The expanded flowers are double, but not extra double. When fully developed they display a small bunch of crimson anthers, and there are a few petals overlapping the centre, which look exactly as if a small button had been inserted. The habit is not so trailing as *Alba simplex*, and the foliage is larger. The growths, usually from 2½ feet to 3½ feet in length, are crowned with a bunch of flowers at top. Sometimes these growths produce from twelve to fifteen laterals, each bearing one crown blossom. This variety seems to be closely related to the *Clynophylla* Roses (*R. lucida*). As conservatory Roses these Macartneys would be very interesting, for they are practically evergreen when removed from the ravages of frost. P.

The Victor Verdier race as autumnals.—Perhaps we may overlook the deficiency of fragrance in this numerous family when it is remembered how very excellent they are as autumnals. Just now the originator of the group is producing its blossoms in great profusion. It is generally conceded that this Rose has an admixture of the China or Tea-scented, and is probably a hybrid between these classes and the Hybrid Perpetuals. Nearly all the smooth-wooded H.P. Roses can claim it as a parent. It produces seed most freely, and some marvellous variations of colour are seen in its progeny. The popular *Mlle. Eugénie Verdier* is one of them, and a lovely Rose it is with its light flesh-coloured flowers. On the other hand, *Countess of Oxford* is as distinct from the latter in colour as it is possible for two Roses to be. This Rose has given us one of the best light-coloured varieties we possess, namely, *Pride of Waltham*, and for show purposes or for the garden this Rose has entirely superseded *Marie Finger* and *Mlle. Eugénie Verdier*. Another lovely kind is *Mme. Bois*. The colour is a delightful light rose tint, deeper than *Pride of Waltham*, and quite distinct from any other Rose. *Etienne Levet* is yet another of the family, and although its growth is dwarf and stumpy, the immense flat blossoms of a pleasing carmine shade

are very much valued by exhibitors. Here again we see the remarkable tendency the *Victor Verdier* race has for sporting, for *Duke of Fife* owes its origin to *Etienne Levet*. All of these kinds are well to the front in the autumn months, and give just the shades of colour required to intermingle with the more delicate colours of the Teas and Hybrid Teas. Of course, it is well known that the beautiful autumnal *Captain Christy* originated from *Victor Verdier*, and still more recently *Lady Mary Fitzwilliam*. The far-reaching influence of this latter Rose will be seen for many a day, and *Mme. Abel Chatenay*, *Mrs. W. J. Grant*, *Antoine Rivoire* and *Souvenir de Mme. Eugène Verdier* are only a few of what are yet in store for us from this marvellous hybrid.—P.

FLOWER GARDEN.

TROPEOLUM SPECIOSUM.

I TRUST Mr. Ewbank will forgive my delay in referring to his interesting "Shrub Notes" on p. 113 of *THE GARDEN* for August 13. I have been very busy and have not had time to put together any remarks upon the subject. Mr. Ewbank's notes entitle them to more than a hurried reply. There is no real difference of opinion between us regarding *Tropæolum speciosum*. My short note was nothing more than an attempt to induce people who have dry gardens and have hitherto failed with this *Tropæolum* to persevere in trying to establish it. There are comparatively few gardens possessing the precise conditions of that at St. John's Vicarage in the Isle of Wight, and those who possess such gardens cannot do better than follow Mr. Ewbank's advice and prepare accordingly. One can hardly avoid generalising at times, and Mr. Ewbank will perhaps pardon me saying that his description of Scotland as so often bathed in mist is only true of a comparatively limited portion. In that portion, however, *Tropæolum speciosum* is unusually brilliant, whether by reason of the moisture of the atmosphere or because the vivid colouring shows well in contrast to the gloom which frequently prevails. This it is only fair to admit. I am far from denying the preference of *T. speciosum* for moisture and rich soil, but what I wished to point out was that these are not absolutely indispensable, and that when established it will grow vigorously and give satisfaction under other conditions. I have in my mind several examples besides the one cited in *THE GARDEN* of July 30. Two or three of these may be referred to. At present on the west front of a farmhouse, growing in hard gravel, a good specimen is covered with flowers of the brightest description. When I first saw it, about a month ago, I could hardly believe that it could be the justly admired *T. speciosum* until I made a closer inspection. Some four or five years ago, in going through the garden of a Scottish manse (out of the region of frequent mists, let it be said), I was delighted with the mantles and wreaths of the Flame Flower on the old Yew trees in the garden. The soil was so robbed by the roots of the Yews that it was almost dust-dry, yet the *Tropæolum* was full of flower. In another garden it was planted with an east exposure in gravel on a sandy subsoil, with the result that, while it took years to establish, it now grows and flowers freely.

I am writing also with some personal experience, after having for some years made several unsuccessful efforts to grow the Flame *Tropæolum* in my own garden. At various times I have procured and planted it, only to see it fail to come up or make weakly growth, then dwindle away and die. Sometimes slugs were

responsible for the failure, but more frequently the cause was the dryness of the soil and the fact that the plants did not become thoroughly established. One spot in particular in which I had a wish to grow this fine climber has given me a good deal of trouble, which makes the pleasure of victory all the greater now that it is within reach. An old Hawthorn tree is retained for shelter to the garden, and as from its position it is necessary to keep it partly clipped, it needs climbing plants to relieve its stiffish outline and brighten it up in the later months. A Honeysuckle clambers up, and for some years I have been trying to associate with this the *Tropeolum*. I have failed up till now, but a couple of shoots which came up for the third season last year have been carefully nursed until one of them reached some 4 feet high, the other failing to reach more than half that height. The former made a few buds, but frost came too early to allow them to expand. This year the plant has sent up shoots a yard or two away, and the main growths on the tree have grown much more vigorously, and are rewarding me with a promise of full bloom. From what I have seen of the plant elsewhere, I am satisfied that the hill of difficulty has been surmounted, and that I shall, should life be spared, have the pleasure of enjoying the flower in greater beauty in years to come.

My former note was penned with a desire to encourage those who have experienced difficulties similar to my own. Our good friend's notes were most welcome. We have, I believe, the same object in view. Whatever divergences may exist are largely due to the different climate and conditions in the Isle of Wight, and the expression of our respective views may, one hopes, only lead others to refuse to admit failures in growing *Tropeolum speciosum* without renewed and continued trial.

S. ARNOTT.

Cursethorn, by Dumfries, N.B.

GARDEN ENEMIES.

WHATEVER else may be set down as a special feature of the present year, I think it is safely a record season for the numbers and pertinacity of garden enemies; their name is legion alike in variety and number. I have not counted all, but a brief account of those that came under notice in one particular day will indicate our present troubles. Walking along an old slip garden, the wall of which is chiefly covered with Plums, I noticed something literally tumble from a tree some distance in front, and on hurrying forward found it was a big old rat that had been walking off with the Plums, some which remained on the tree bearing the marks of teeth. It is the first time I have had them run up wall trees after fruit, although in previous years they have visited the bush Apples. Writing of Apples reminds me to note that jays and blackbirds have already been troublesome, and despite the fact that some were shot and suspended from the trees, they spoiled a lot of Quarrendens, Mr. Gladstone, and Duchess of Oldenburgh. We shall have to watch the best sorts carefully, and in the case of dwarf trees throw a net over them if possible. In the early days of the Peaches and Nectarines they were with difficulty kept free of aphid and red spider, and now, as they are approaching the ripening stage, we have to contend with earwigs, wasps, bluebottle flies, and ants. The two first named are, fortunately, the easiest to get rid of: fortunately, because in the majority of cases they are responsible for the commencement of the mischief the others are only too ready to continue. With the earwig the great point is to be early in the field with the Bean traps and endeavour to clear them out, at least to a great extent, before the fruit approaches the ripening stage.

Wasps are strongly in evidence despite the fact that comparatively few queens were seen in the spring; as in the case of earwigs, there is nothing like being early in the field against them. We have already found some thirty nests in the immediate neighbourhood of the garden. The flies are in such numbers that they quickly demolish fruit when it is once tapped for them; bottles containing beer and sugar lure them to destruction, and many are taken, but they prefer a ripe Peach or Nectarine to the intoxicant. All winged insects, as butterflies, moths, flies, and gnats in endless variety are extraordinarily numerous, and in the case of the last three named there are many forms I have not previously noticed in this locality. One of our worst enemies—red spider—has been very troublesome all round this neighbourhood, and where labour is somewhat scarce it is almost impossible to keep it in check, and, owing to the absence of rain, it



Lilium colchicum. From a photograph sent by Mrs. Lawrenson, Tobaccoora, Antrim.

is still strongly in evidence. It has paid particular attention to Gooseberries on the trellis and to plantations of Violets.

E. BURRELL.

Claremont.

Endurance of Begonias (*Belmont*).—There can be no doubt but that Begonias, like many other plants, do deteriorate somewhat with age, because of their peculiar nature, but still very much depends on the variety and its natural habit or constitution and upon the way treated. Such a fine tuberous variety as the scarlet bedding Worthiana, though increased by myriads yearly through cuttings, is as robust as ever. Much depends on the treatment the plants receive in the summer, which, if good, enables them to strengthen the root-corms, and the treatment the corms receive in the winter. Then by propagation, both in the late summer and in the spring

from young shoots, creating new corms, much may be done to strengthen a stock. But seeing how readily fine plants are produced from seed, it is wisest either to raise from seed yearly or else purchase tested yearling tubers.—A. D.

LILIUM COLCHICUM.

THE accompanying photograph of *Lilium colchicum* shows its growth in a garden where the soil is a heavy loam and the climate one of much moisture. It has yearly increased in quantity and height, though receiving no other attention than a slight winter top-dressing of old manure. It is alike beautiful in the radiance of the morning sunshine or in the soft stillness of the twilight hours, for in the "North Country" night does not draw her dark mantle across the summer skies, but leaves the western heavens aglow, till the pale light in the northern horizon proclaims the sun's swift course beneath.

Over the wall clambers the Sweet Jessamine not yet in bloom, but, half tumbling down, makes of its dark leaves a dusky alcove, against which *Lilium colchicum* stands forth erect and stately some 5 feet high, its stems set closely with luminous blossoms in colour like fresh plucked Lemons. The petals as they lie folded together before unclosing have a deep purple stain where they join the flower-stems, and the point of each is in like manner tipped with dark purple. As the blossoms expand the petals curve upwards, displaying the dark markings beneath, and leaving visible the purple-capped stigma surrounded by the dangling orange-red anthers. It is a lovely flower, whether beheld glowing in the sunlight, or cool and pure like moonbeams in the dusky hours.

A. L. L.

NOTES ON HARDY PLANTS.

Dianthus Knappi.—What a long time this new Pink continues to bloom. You cannot but notice it because, though small, the flowers are of the clearest canary-yellow. I fear, however, that to the minds of many the otherwise pretty parts of this species may be discounted by the fact that the flowers are in clustered or congested bunches, on longish scape-like stems, in the way of cinnabarinus, carthusianorum, and cruentus, and yet the plant has a pretty habit, not to say elegant. The grass is rather long, thin, and narrow.

Primula Rusbyi.—This is the latest and sweetest of all the Primroses; its deep crimson-magenta flowers are almost as welcome in the latter days of August as any of its sisters in spring. Not only is the colour striking, but the under sides of the corolla are just the same deep shade. The "eye" is old gold colour, and the mealy edged calyx divisions are of marvellous beauty, owing to the silvery edges being contrasted with the succulent leather-brown calyx. It is a very distinct species in every way and belongs to the comparatively small group as yet found only in America. You cannot grow a more charming kind; and besides, if you get it to do well there is scarcely another hardy alpine you would have

more cause to be proud of. I have grown it for twelve years and find it starts and flowers late, grows rapidly, but increases by offsets slowly.

Houstonia purpurea.—Do not be induced to plant this, however tempting its family name may seem. The pretty creeping *H. serpyllifolia* and the lovely "Bluets," or *H. cœrulea*, with its variety *alba*, are just as good as good can be, but the present plant is coarse and grows over a foot, and has dingy flowers.

Conandron ramondoides.—A few flowers are now open on the plants which stood out of doors all last winter. I think this is at least interesting, though the winter proved so mild, as it points to the possible chances of this lovely plant enduring the open-air culture the year round in many parts of our islands.

Woodville, Kirkstall.

J. Wood.

THE CLEMATISES.

(Continued from page 138.)

SECTION V.—*C. LANUGINOSA*.

C. LANUGINOSA is the best of the large-flowered Clematises. The forms are characterised by their buds, which are large and woolly, as are also the peduncles and the young leaves. They are quite a distinct section, though allied to the *azureæ*.

I have one of the first species which has been in my collection for a number of years. Such species are becoming very rare. I give a description of it here with that very old variety, *C. lanuginosa pallida*, and that of another superb form which I have had for at least ten years, and have known as *C. lanuginosa* species.

C. LANUGINOSA (Lindley).—In 1850 the woolly Clematis was sent to England by Fortune. It flourishes in the north of China on the Chekiang Mountains, near Ningpo, on the hillsides, in light and rocky soil, where its large handsome blue star-like flowers may be seen upon the tops of the bushes. In the spring of 1852 a plant bloomed with Messrs. Standish and Noble. The strong, vigorous stems scarcely attain a greater height than 2½ yards to 3½ yards. The foliage is of a greenish white. The flowers are fairly large in size and in shape oval, terminating in a point; they are woolly, especially on the under side. The inflorescences are in threes and terminal. Instead of a rather short spring bloom like that of *C. azurea*, *C. lanuginosa* begins to bloom in June and July, and its flowers continue throughout August and September. These are very large, 6 inches to 8 inches in diameter sometimes, of a handsome pearly grey-blue or lilac colour, and star-shaped, with lozenge-shaped pointed and recurved sepals.

C. LANUGINOSA VAR. *PALLIDA*.—This differs from the species only in its paler flowers. About ten years ago there came to me under the name of *C. lanuginosa* species a splendid woolly Clematis, characterised by thickly-set foliage, composed of rounded cordiform leaves of a whiter green colour than the type, as well as being more woolly, especially underneath. The flowers were of a bright lilac satiny blue, of a more intense shade than in the type, and were composed of larger, rounded and more recurved sepals, which combined formed a superb rose of from 4½ inches to 6 inches diameter, the numerous and very clustering flowers forming at a height of over a yard from the ground an enormous and magnificent bouquet. I have still in my possession the first species, which is now nowhere else to be found. It differs perceptibly from the *lanuginosa* of commerce in having the sepals smaller and more pointed and the leaves only slightly cordiform.

The introduction of *C. lanuginosa* brought about a veritable revolution amongst amateurs. Already attempts had been made to hybridise the *Viticellæ* with the *azureæ*, but the new arrival from China at once monopolised the

attention of hybridisers and was the cause of the inclusion of the Clematis family within the domain of horticulture.

In France and England repeated crossing with *C. Viticella*, *azurea*, *florida*, *Fortunei*, *Standishi*, *integrifolia*, *Hendersoni*, &c., have produced a very large number of varieties, in some of which are to be found the long-flowered vine stems of the *Viticellæ*, and in others the ample flowers of the *Viticellæ*, but instead of only a spring bloom of no great duration we have now flowers from May and June through the summer and the earlier part of autumn. Prolonged vegetation and successive bloom during several months are, in fact, the distinctive characteristic of the woolly Clematis.

In speaking of the hybrids, I intend to give the nomenclature of the large number of those that belong to the *lanuginosæ*, and they are certainly the handsomest of the entire race. *C. lanuginosa* does best in a northern aspect and peaty soil. In such a situation it reaches its fullest vigour, and its flowers last longer and preserve their freshness better.

SECTION VI.—*ATRAGENES*.

I.—THE *ATRAGENES* PROPER.

The *Atragenes* are charming and graceful spring Clematises, but are little known and not often seen in gardens. Now-a-days they are seldom met with anywhere except in botanic gardens. Nevertheless, they have a true garden value. Their moderate size adapts them for cultivation in pots, and their pendent bell flowers—blue, rose colour, or white—are most attractive. I have cultivated four species, viz. :—

C. ALPINA (Mill.), *ATRAGENE ALPINA* (Linn.).—Among the first was the alpine Clematis, a native of the Alps and of Southern Europe, growing at an elevation of 2000 feet to 4000 feet. The stems, which at first are stained red, rise to a height of between 3 feet and 6 feet. The flowers are a bright and delicate blue, and open from the centre of the bud. The alpine Clematis is hardy and most likely to succeed when planted in a northern situation in peaty soil.

C. AUSTRIACA, *ATRAGENE AUSTRIACA* (Scop.), *A. MACROPETALA* (Hort.).—This species, which came to me under both these names, is allied to the preceding, differing from it in the bell-shaped flowers, which are larger and more pendent. The stems, with their numerous offshoots, are not so high, and the leaves shorter and more regularly indented. The petals are of unequal size, and resemble a semi-double flower as they increase in size. The flowers are a violet-blue of a deeper shade than in the preceding species. Like those of the alpine Clematis, they open in April and May, and sometimes in August. Under the name of *Atragene macropetala*, Walpers describes a Doorian species which, with its numerous oblong and pointed petals, the exterior ones of which are almost as long as sepals, would appear to be the same as *Atragene austriaca*.

C. SIBIRICA (Mill.), *ATRAGENE SIBIRICA* (Linn.).—I have cultivated a Clematis under this name, and it resembles the preceding one in all respects save in having white flowers. It is a real *austriaca alba*, with perhaps a more vigorous growth. These two last have bell-shaped flowers, blue or white, are very graceful plants and more beautiful than the alpine Clematis.

C. VERTICILLARIS (De C.), *ATRAGENE AMERICANA* (Sims).—This, although a climbing plant, is quite distinct from the preceding. The flowers resemble those of *C. austriaca*, excepting that they are purple or purplish in colour. This species, which is not now met with, and which I have lost, is extremely interesting.

II.—*ANEMONÆFLORA*.

Under this name I do not hesitate to commence a second paragraph in the section of *Atragenes* for the sake of placing these two

Asiatic species, one very common and very much liked, *C. montana*, the other rare and rather curious than beautiful, *C. barbellata*. *C. montana* was classed by De Candolle with the *calycinæ*. The mountain Clematis has the flowers crossed like the alpine Clematis. *C. barbellata* has pendent flowers and pointed sepals like those of *C. austriaca*.

C. MONTANA (Buchan), *C. ANEMONÆFLORA* (Don).—The mountain or Anemone-flowered Clematis is a native of Nepal. At the present day it is one of the most largely grown of the Clematises, and it seems likely to take the place of the old sweet-scented Clematis (*C. Flammula*) as an ornament for palisades, &c. It mounts to a great height on trees, and for this reason may be used with advantage and with charming effect in parks and large gardens. *C. montana* blooms in May. It is also strikingly handsome for its fine dark foliage. The leaf is indented. It is truly the Clematis of the "month of Mary," and well deserves to be the favourite it is.

C. BARBELLATA, *C. NEPALENSIS*.—This species is as rare as the preceding one is common. It was first raised from seed in 1851 at the Botanic Garden, Glasnevin, near Dublin, where it flowered in 1853 or 1854. In leafage it resembles *C. montana*, but differs from the latter in its flowers, which are of a brown or russet tint, and are of a pendent, bell shape, with long pointed sepals. I have cultivated it and seen it in flower. The colour of the flowers resembles that of the Asarum flower. It must not be confused with the *C. nepalensis* described by De Candolle as nearly allied to *montana*, and belonging also to the Himalayan region. De Candolle does not mention *barbellata*, which was not introduced when he published his "Prodromus."

SECTION VII.—*CALYCINÆ*.

The *calycinæ*, or, as I prefer it, the *caliculæ*, are the green Clematis of the Mediterranean region. In our climate they winter in the open air, and except in a very severe season are evergreen. After resting in August, when the leaves become yellow, they start into growth at a time which corresponds to our autumn, and the blooms come some time between December and March, according to the season. Though not strikingly handsome with their yellow and yellow-green tints, the flowers are really interesting, coming as they do at a time when Nature is bare and the cheery green of the leaves stands out in graceful relief. The *caliculæ* are very vigorous climbers, able to rise several yards and cover large spaces.

C. CALYCINA.—This originally came from the Balearic Isles, Majorca and Minorca. It is the type of the group, and distinguished from its congeners by its delicate and much-divided foliage, which in the sun acquires a reddish tint, and by its rather pretty bell-shaped yellow or china-red flowers. I have grown a variety of *C. calycina* that had a larger and less divided leaf.

C. CIRRHOSEA (Linn.).—This has the leaf less divided than the preceding and composed of three oval indented segments, the colour a handsome glossy green. The flowers are greenish. A bushy plant, it is valuable for covering walls with the aid of wire. It is a native of South Europe and of the islands of Crete, Corsica, Calabria and Sicily.

C. SEMITRILLOBA is nearly allied to the preceding. Its handsome glossy green leaves are for the most part formed in three lobes, and some are entire. They are indented and resemble in appearance those of the Hawthorn. The flowers are a greenish white and of a fair size. Its origin is ascribed to Southern Spain, but there can be no doubt but that, like the species of the same group, it belongs to the whole of the Mediterranean region. When on a visit to Jerusalem in 1890 I met with it on the summit of Mount Tabor.

These Clematises are not enough grown. In winter the flowers are not to be despised for

bouquets, and grown in pots they would when in bloom find a ready sale.

SECTION VIII.—UNCLASSIFIED CLEMATISES.

There will always be a certain number of species and varieties which cannot be classed amongst the preceding sections. It is useful to reserve for them at least a provisional place until having been better studied and become better known. They are either attached to old groups, or, by their relationship with new species of which they were the first introduced members, they constitute new sections of the already richly endowed race of cosmopolitan climbing plants which are found in all parts of the globe. Yet another work remains to be done, and that is to classify the numerous hybrids and make a distinct section of them from the natural and type species, and not fall into the error of confusing with these the mere results of crossings, or, on the other hand, place amongst the hybrids Clematises reproduced from seed and possessing incontestably the characteristics of the species. In this section I place the five following Clematis: *C. cœrulea odorata*, *C. Jackmani*, *C. Hendersoni*, *C. crassifolia*, *C. smilacifolia*.

C. CÆRULEA ODORATA (Hort.).—I have known this Clematis for more than thirty years and I have it now. I have often seen it in fine condition on the face of a south wall in the late M. A. Pellier's collection. It is not a climbing plant. It has straight and spreading stems rising to a height of 4 feet to 6 feet—seldom 8 feet. The bloom is borne upon a kind of panicle. The leaves are almost glaucous; the flowers small, and are composed of four narrow sepals, open, and in colour a fine violet-blue. They exhale a decided odour of vanilla. The above description tallies in all respects with that of the *C. Poizati* (Hort.) (Seringe's "Flore des Jardins," vol. iii., 1849) obtained by M. Poizat, of Villeurbanne, near Lyons. *C. cœrulea odorata* was so-named by M. Bertin the elder, Versailles, who obtained it from M. Poizat (*Revue Hort.*, 1877). This Clematis is nearly allied to *C. violacea* (Alph. de Candolle). I have never seen it otherwise than sterile, and this is also my experience of the present year. There is no doubt that *C. cœrulea odorata*, which is identical with *C. Poizati*, is a hybrid of a (probably) paniculated species and a blue species of the Viticella group, and therefore I believe M. Alph. Lavallée to have been in error in calling it a species and a type under the name of *C. aromatica*.

C. JACKMANI (Hort.).—This English hybrid Clematis is at the present day classed as one of the most beautiful. It made its first appearance between the years 1864 and 1866. Messrs. Jackman and Son, of Woking, introduced it to commerce as having been obtained by crossing *C. Viticella* with *C. Hendersoni*, or, as I have elsewhere seen, *C. lanuginosa* with *C. Hendersoni*. In any case *C. Jackmani*, with its flowers of fine and intense violet-purple-velvet colour, would seem to belong much more to the Viticella section than any other. Towards 1880 Dr. Savatier discovered in Japan a species of Clematis, which, in the opinion of M. Lavallée, is identical with Jackman's Clematis. This species from the hills of Hakone, in the island of Nippon, has been named *C. hakonensis*. It has blue flowers, is figured in M. Lavallée's book, and classed among the Viticellæ. Whether a case of chance resemblance or one of identity between Jackman's Clematis and the Japan species, this Clematis has now been reproduced under its quite distinct type in a large number of new hybrids, and in fact it constitutes a race which ought to have a place side by side with the Viticellæ, the floridæ, the azuræ, and the lanuginosæ.

C. HENDERSONI (Hort.).—I have already spoken of this Clematis when describing integrifolia and its different forms. *C. Hendersoni* was introduced to English gardens as the result of crossing *C. Viticella* with *C. cylindrica*. It has flowers

similar in all respects to those of *C. integrifolia*, whose relationship is much more evident. Although almost invariably sterile, M. Decaisne nevertheless classes it as a species under the name of *C. Eriostemon*. He adheres to this name, and makes it the type of one of his sections. To me it is merely a hybrid of the integrifolia group.

There yet remain two well-marked species of uncertain classification.

C. CRASSIFOLIA.—This I have often seen in the late M. Foulard's garden, and it appeared to have many of the characteristics of the Australian Clematis, notably *C. aristata*. Is it identical with *C. coriacea* of New Holland? In any case it came into the market as a native of Japan. It is a greenhouse plant characterised by thick, strong leaves of a fine green and white flowers on little panicles.

C. SMILACIFOLIA (Wallich).—This is a magnificent climber, distinguished from every other by its habit and enormous growth and its large, entire, oval, and heart-shaped, strong and glaucous leaves, which in the young state are marked with white and of a bright green. The flowers are on the outside of a russet-brown colour and woolly, and on the inside a deep violet, almost black. This handsome species I saw flowering in November, 1852, in a greenhouse belonging to the late M. Bougard. It is a native of Nepal, and was brought to Belgium from Java, where it flourishes on the mountains, which accounts for its doing well under glass.—Dr. JULES LE BELE, in *Bulletin d'Horticulture de la Sarthe*.

THE NEW FURNISHING OF FLOWER BEDS, BORDERS AND VASES.

I HAVE already sent you a good sample of the freshness and grandeur of this style, at once very new and ancient, in my note respecting the most effective use of single Hollyhocks in the enrichment and adornment of the Regent's Park. This style of using flowering plants for the furnishing of beds and borders was one of the first, as it is likely perhaps to be also the last, in decorative gardening. Among my first memories of practical gardening were the massing of Phloxes, Delphiniums, Snapdragons, Hollyhocks, Dahlias, Pentstemons, Verbenas, Calceolarias, &c., in tens, twenties, thirties or more on the terraces around Scone Palace. Annuals of various sorts were employed to separate the groups from each other, and add to the brilliancy as well as beauty of the colouring. This mode of using blocks of colour of differing heights and forms had most of the virtues and few of the faults of the more formal and glaring bedding-out system that followed. That system may be said to have died, so far as it is dead, through the glare and garishness of its colouring. At its height it was well and truly called the "scarlet and yellow fever," and these names did much to kill or improve it off the face of our flower beds and borders. Still, the foundation of most of our effective gardening stands sure and stable in our flower beds and borders. True the masses may be too big or garish or badly matched with other contiguous or impinging masses, but the mass in itself is a thing of power as well as of beauty in the enriching and ennobling of our landscape.

For example, one plant of bright scarlet Pink or golden Carnation, Hydrangea, Bamboo, Heliotrope, Phlox, Marguerite, Fuchsia, pyramidal Campanula, white fragrant Begonia is beautiful; but multiply it by ten, twenty, fifty, or a hundred and the beauty grows far beyond the mere numerical addition of numbers. Yes; and it grows fastest and to the highest landscape effect when each colour is used in sufficient quantity as well as of the proper mildness and intensity. The new furnishing, while clothing the glitter and glare of the bedding-out style and the coldness and stiffness of carpet bedding with chaster grace and fuller beauty, must beware of being dragged into

dreary monotony in the clothing of landscape through indiscriminate mixtures of all the colours thrown on the canvas or planted into beds or borders at random. The chief danger ahead in our new style of furnishing gardens, parks, and landscapes is not the paucity, but the excess of colour, which is all too frequently mixed down into weakness and mediocrity. In many of our arrangements one finds two or three arrangements at different heights. One huge mass of Hollyhocks at the Regent's Park had a ground clothing of *Nicotiana affinis*, *Coreopsis tinctoria*, and an edging of Heliotrope, Paper-white dwarf herbaceous Phloxes, and Marguerites, very rich, perhaps too much so, and too many plants and colours in one mass, for other large groups of single Hollyhocks fringed with a broad band of London Pride produced a more stately, unique, and telling effect.

On the other hand, an irregular piece of carpet bedding, or a shape near the divergence of two main walks, presented a maze of beauty almost as bewildering as pleasing. The ground was irregular, the size of the group irregular, the form informal or unequal, and the height of the plants, as will be seen when named, very varied and distinct. The groups were distinguished by vigour and prodigality of growth and of blossoming. Where the groups met they more or less overlapped and mingled. And no attempt seems to have been made to maintain sharp lines between the blocks of colour that distinguished the different plants. A mixture of alternate plants of white and blue Lobelia was profusely used, as were two separate blocks of two Campanulas as unlike as the dwarf *C. carpatia* and the towering *C. pyramidalis*; Chinese Pinks, red and yellow dwarf Nasturtiums, mixed Violas, Iceland Poppies, the all-too-seldom-seen mixed *Verbena* (once grown by thousands in every garden); the beautiful variegated *Chlorophytum elatum* variegatum, springing from a skylike carpet of blue Lobelia; *Echeveria secunda* glauca; the golden-leaved Moneywort, creeping capriciously, leaving trails of gold behind, over Stonecrops in various directions, &c. Beautiful as all these groups were in themselves, each was apparently enhanced through its proximity to its nearest neighbour, the finishing touches consisting of a few dwarf, very healthy green plants of *Araucaria excelsa*, and a liberal sky-line over and above all the group or masses named of Bridal Wreath, *Francoa ramosa*. The flowers stood up well above the flowers of the groups, and the gentle breeze swayed them over the surface of this tangled skein of beauty. The effect was so magical and fairy-like that I felt forced to write down my impressions to send all your readers to see it for themselves before the rapidly coming autumn mists or wrecks its beauty. D. T. F.

SEMPERVIVUM ARACHNOIDEUM.

WITH the culture recommended on page 172, this Cobweb Houseleek becomes very effective in its own quiet way. When established in congenial quarters and left alone it is also much admired, although the rosettes are necessarily smaller and the silvery "cobwebs" less noticeable. In the rock garden in dry and sunny crevices it looks very well, and in cracks and holes in the stones it can be made to add much to the interest of a rock garden. I can well recollect it on the stones forming the barrow-shaped rockeries in Mr. Wolley-Dod's garden at Malpas. The Houseleek was planted there at the suggestion of Mr. W. Robinson, and the effect is a good one where the stones are not too much covered with other vegetation. On a low wall in my garden I have a nice little mound of the Cobweb Houseleek some 12 inches or more in circumference. A few years ago a single rosette was planted in a chink in the lime with which the wall is pointed. To give it a good start a small patch of loam, cow manure and lime rubbish, about 2 inches across, mixed with water like mortar, was jammed into the chink and the rosette inserted. The *Sempervivum* has increased apace and now forms a shield-like

mound, extending over much more than the compost inserted for it. There are now upwards of 100 rosettes. As may be expected they are closely packed together and are consequently small. A few flowers are produced annually, but they are not much desired, for the rosette which blooms invariably dies, as is the rule with the Houseleeks. Among others which do well planted in a similar was is *S. Regina Amalie*. *S. Lageri* is also very fine on my roof garden. S. ARNOTT.

Carslhorn, by Dumfries, N.B.

STOVE AND GREENHOUSE.

DIPLADENIA ATRO-PURPUREA.

THIS is one of the more recently introduced species, having been introduced by Messrs. Sander and Co. some six years ago. It has been a disappointing plant to a certain extent, not in its flowers, for these are most lovely, but so many amateurs and others have utterly failed to grow it. It does not seem to be due to any constitutional defect in the plant, for at St. Albans it is growing and blossoming with the greatest freedom in quite a cool, corridor-like house. It is quite possible that many failures may be traced to giving too much heat, there being a disposition among many growers when plants go wrong to give more heat with a view to setting things right. This is, I think, the case in many instances where this plant has failed, one or two such having come under my own notice. That it will grow and flower with only a moderate degree of heat is certain, and I have yet to see the plant that can be grown cool that is not the worse for the application of strong heat. This species and the somewhat similar habited *D. boliviensis* should look charming grown together, as they both might be, in a cool stove. During the summer the heat need not be excessive, but I would not like to trust either in a cool house in the winter. As is well known, the flowers of the latter species are pure white, excepting a golden yellow eye, while those of *D. atro-purpurea* are a most beautiful tint of the deepest maroon, glossy and shining. It should make a beautiful plant for growing up pillars or rafters in light, warm houses, and the flowers have a fine effect under artificial light. Not only do plants in the earlier stages flower freely, but the length of time they remain in flower is remarkable. Every short side shoot has its corymb of flowers that open successively all through the summer and early autumn, and the colour is not particularly plentiful among stove and greenhouse plants. T.

Æschynanthus speciosus.—This is very fine just now grown in a large basket in a warm Orchid house, the semi-pendent habit induced giving the plant an added charm. The flowers are very bright orange-scarlet, freely produced at the end of the shoots. The plant may be propagated in spring by cuttings, and these should be grown as strongly as possible in heat and moisture the first season. After the growth is finished for the year, keep the plants much drier and a little cooler to induce them to rest, this causing them to flower more freely the ensuing year. It is a native of Java, and was introduced to this country about 1845.

Bouvardia Humboldtii corymbiflora.—This frequently fails to flower satisfactorily and is inclined to run up too tall, but with proper treatment this may be avoided. I have lately seen a good batch in full flower in $4\frac{1}{2}$ -inch pots, the plants being from 1 foot to 18 inches high and carrying from ten to twelve good trusses of bloom. These were grown from cuttings put in in January. Being of a distinct habit of growth, this requires different treatment from the other *Bouvardias*, especially after they are placed into the pots they are to flower in. They may be grown with the other varieties until they have made a good start after they have been stopped for the last time. After this they should be placed out in the open

where they will be fully exposed to the sun. If watering is carefully attended to and a liberal supply of manure given, there will be little chance of failure. After the plants are well set with bloom they may be taken under glass to open, for though in good weather they will bloom freely in the open, the flowers are easily damaged by wet or wind, and a slight protection will ensure a good display of pure white bloom, which is always valued on account of its fragrance.—A.

The Stephanotis as a greenhouse climber.—A few years ago, when converting a stove into a greenhouse, I had occasion to leave a plant of *Stephanotis* in its old quarters on account of its being difficult to remove. The roots of the plant occupy a brick pit built under the front stage. A portion of the stage would have had to be taken down before lifting could have been done, so it was decided to allow the *Stephanotis* to remain and take its chance. Although so left I never expected the plant would do any more good, as it would be subjected to conditions which one would suppose would be inimical to the *Stephanotis*. However, quite contrary to expectation, it made the usual growth the following spring, and has continued to do so each year since, while it always blooms with the greatest freedom every summer. It has been in flower for the past three weeks, and will last quite another fortnight. The trusses and pips are quite as fine and well developed as if grown in the usual way, while they last longer in good condition when cut than when grown in a stove. I never remember hearing of the *Stephanotis* succeeding under cool treatment, and it would be interesting to learn whether any readers of *THE GARDEN* have grown it under similar conditions, and if it is found to be as free-flowering as the plant forming the subject of this note.—A. W.

Gloriosa superba.—Totally unlike any other occupant of our stoves, the brilliant flowers of this climbing liliaceous plant are sure to arrest attention from their peculiar shape and striking colour, a mixture of vivid scarlet and golden yellow. It forms a curiously-shaped tuber, large numbers of which are sent to this country when dormant, in which condition they may be purchased at a moderate rate. Potted early in the year they push up climbing stems that make their way upward by means of tendrils on the points of the leaves. The flowers, which are borne towards the ends of the shoots, appear from July till the autumn. This *Gloriosa* is well suited for growing as a rafter plant in a small or medium-sized structure, as the foliage obstructs but little light, and the blossoms, curious in every way, well repay close inspection, which would not be possible in a lofty structure. *Gloriosa superba* is a prominent feature in many tropical regions, and was introduced to this country over 200 years ago. Exposed to the brilliant sunshine of the tropics, the flowers of this *Gloriosa* are even more richly coloured than we see them here. The cultural requirements are not at all exacting, yet a few items need be carefully carried out. For the culture of *Gloriosas* reference may be made to the number of *THE GARDEN* for October 9 last year, where their entire treatment is exhaustively dealt with.—H. P.

Physianthus albens.—This is a pretty greenhouse climber that toward the latter part of the summer and in autumn flowers very freely. The slender twining stems are clothed with opposite cordate leaves of a peculiar whitish tint, which give to a plant a very distinct appearance. The flowers, which are borne several together in the axils of the leaves, are whitish, somewhat urn-shaped, with the spreading segments prettily crisped. This *Physianthus* is a native of Brazil, from whence it was introduced in 1830. Cuttings of the weaker half ripened shoots strike root readily if put into pots of sandy soil and kept close for a time, while the plant grows freely enough in ordinary potting compost. It is nearly related to the ever-popular *Stephanotis floribunda*, and also to the genus *Schubertia*; indeed, beside the name of *Physianthus albens*, it is also known as *Schubertia albens* and *Arauja cerici-*

fera. The nearly-related *Schubertia graveolens* or *grandiflora* has attained a good deal of popularity within the last few years, and is now very generally met with. It was at one time spoken of as a rival to the *Stephanotis*, but is never likely to reach the same amount of popularity that the *Stephanotis* has attained. This is to a great extent owing to the fact that the foliage of the *Schubertia* has a very unpleasant odour, while the flowers do not possess the whiteness of the *Stephanotis*.—H. P.

GARDEN FLORA.

PLATE 1187.

DOUBLE PRIMROSES.

(WITH A COLOURED PLATE.*)

THE coloured plate issued with the present number of *THE GARDEN* represents a portion of a collection of double Primroses, than which no fairer nor more interesting flowers adorn our gardens. Why then are they so rarely seen, and why so difficult to cultivate? It is probable that the second question answers the first. They are rarely seen because they are difficult to cultivate. By cultivation I do not mean a feeble existence with here and there a poor flower, but a plant of noble habit, with rich, succulent foliage, 9 inches or 10 inches in height, a wealth of perfectly-formed blooms peeping in clusters from between the leaves, and numbering in well-grown specimens from 80 to 120 exquisitely formed double blossoms, possessing colour of a depth and velvety richness rivaling the Rose, and of a size little less than the Carnation, but unrestricted like these by the usual laws of plant colour, for amongst them are found all shades of crimson, yellow, and blue, whilst rich browns, whites, and blended shades combine to form a plant-picture of great depth and richness. Though the varieties of double Primroses are not numerous, their colours are distinct and include a few variegations, though the majority are pure selfs, which lend themselves to decorative design of an especially alluring nature. Nothing can be more beautiful than a well-staged basket of double Primroses carefully arranged and nestling amidst their own foliage in fresh green Moss, nor can anything be more dainty than a well-made button-hole of the same flowers of various colours.

Their value as cut blooms has never been appreciated, although we are a commercial as well as a flower-loving people. As an instance of the blooming qualities of these plants and their value to the sellers of cut flowers, I may mention a small bed, 9 feet 6 inches by 4 feet, of double white Primroses grown here, containing fifty plants, much too crowded, but carrying at one time an average of eighty open blooms per plant—an aggregate of 4000—all even size, of about $1\frac{1}{2}$ inches in diameter, and this at a time when white flowers were specially sought for and commanded a high price. Their decorative value in the garden when highly cultivated is great,

* Drawn for *THE GARDEN* by H. G. Moon from flowers sent by P. H. Mules, M.D., Old Parsonage, Gresford. Lithographed and printed by J. L. Goffart,



yet they require comparatively little protection, whilst the space allotted to them need not be large. If it is desired to obtain early flowers, a frame 6 feet by 4 feet can be placed over them, supported only at the corners, for Primroses require plenty of air and are very averse to coddling. At the same time I advise screens as a protection against cutting winds, which materially injure the delicate varieties, and I have found nothing cheaper nor more satisfactory than some light material, such as Heather or Fern or Reed straw, sandwiched between two layers of wire netting.

As companions to choice double Primroses, double Polyanthus are all that can be desired, and as they flower later than the Primroses their value is appreciable. I know of only four varieties, but it is difficult to find a more beautiful flower than Golden Pheasant, with its wealth of rich golden brown, perfectly double blossoms, of which you may see six to ten on each stem; whilst Golden Ball, a stronger variety, with larger foliage and pink and yellow double flowers, as a cut bloom is hard to beat. Then there is the tricolour Rex Theodore, a combination of rich crimson and yellow, with each petal deeply fringed pure white; and the charming semi-double Flake, or, as it is known in Ireland, Prince Silverwings, a silver laced Polyanthus of great merit, of which a proportion of the blooms is single, others duplex, others again quite double.

For those who have never seen double Primroses in perfection I would select Pompadour, a beautiful velvet crimson, perfectly double, as a type; next double white, double lilac, double mauve, double yellow, double rose (bright, though a shy bloomer, with immense blossoms), double sulphur, double cerise, in the order written, but each is charming and has its admirers. The most difficult of all to grow is Pompadour, yet I have had it here in continuous bloom since October, and to-day (May 6) I have cut 100 fine flowers without appreciably diminishing their number. To grow plants such as these infinite pains is taken, and special beds are devoted to them, it being impossible to grow such in a general border, but, although this may rather militate against their general cultivation, who would grudge space, time, or trouble to achieve such results?

In sending double Primrose flowers to a distance, they should be pulled twenty-four hours before sending, tied in small bunches, with or without leaves, and immersed in water half way up the stems; then packed in damp Moss tucked round each bunch of stems, they will arrive perfectly fresh after a long journey and improved in colour.

P. H. MILES.

Old Parsnapp, Gresford.

Garden labels.—Labels, and the little failings attached to almost every form of them, are a perennial source of discomfort, and we seem as far away from the one which is to be universally satisfying as our predecessors have been for generations. The great difficulty is to find a suitable and not too conspicuous label for low-growing plants, which shall remain legible for a number of

years and stationary as long as necessary. For wall trees, or any plant growing on or near anything that will hold a nail or tack, nothing can be better than narrow strips of sheet lead with the names stamped deeply into them, and with a hole at each end to receive the nails. Such labels are still in use here that were stamped more than sixty years ago, and the letters, though small, are as well defined and clear-cut as ever they could have been, and will probably remain so for another century. For the ordinary wood labels for all kinds of outdoor plants, I advise those who have the opportunity to try seasoned wood of Abies Douglasi, made into rather long and stout labels, painted in the usual way with white lead and written on with a black lead pencil while the paint is wet. I find this wood very durable, and that it takes the writing well. Some that were made and written on four years ago are now as sound and good as ever, which is not a bad record for a wooden label, being long enough to allow most of our border perennials to remain undisturbed. To further preserve the bottoms from rotting, it is an excellent plan to dip that portion of each label which is to enter the ground into linseed oil or Stockholm tar, and then plunge it into a pot of sand to remain till dry. Good wood treated thus will remain sound for a dozen years, and probably more.—J. C. TALLACK.

THE WEEK'S WORK.

FRUIT CULTURE.

WATERING FRUIT TREES.—In many gardens this is still a serious item of labour, involving frequently time that cannot well be spared. Yet if fruit trees now in bearing are at all suffering at the roots it is work that must be done, being not only beneficial to the fruit approaching maturity, but also to the trees themselves. Of the two it is more important in the latter instance, as any serious neglect for want of water now will involve another season's crop in danger. In our own case, as an example no doubt of many others by the frequent expressions one hears of the want of rain, we are being compelled to water Apples and Pears which have been planted for several years, and which should by this time be well established. Plums also under the same conditions will frequently show symptoms of distress, and when this is indicated no further delay should be permitted. Cherries against walls as well as in the open need more moisture at this season of the year than is often credited to them, and the same remark applies to Apricots. By leaving the trees now to chance with the daily expectancy of rain is to run a risk of injury to the fruit buds of another year through imperfect development, which ought by all possible means to be avoided. Heavy autumnal rains will sometimes cause late growths, which are not desirable, but of this there need not be any apprehension with the ground so dry as it is at the present moment. Another crop which at this juncture is an important one is that of the Peach and Nectarine. Possibly, however, these have received the first attention, and so have in a measure been rendered safe. If not so well attended to, do not let the trees go any longer without water if they give indications of being dry, otherwise the red spider may still be reckoned upon to do its destructive work. Our trees of the latest kinds and those which have been cleared of fruit have up to within the past week been syringed, but owing to a good water supply we do not fear this insect; hence now this work will be dropped. The trees themselves will indicate plainly what their needs are, and such should not be mistaken for early ripening. Late Peaches and Nectarines on west walls are much later than usual this year in our case, and as the trees are bearing heavy crops in several instances they have been assisted by another application of manure. The borders were mulched some time back with clean litter, hence the soil does not get so parched upon the surface. The advice given from time to

time in respect to mulching has now its full application, and those who took the hint in time will without doubt be appreciating the same to their full extent as labour-saving in no small degree. Under all fruit trees of choice fruit a surface dressing of clean litter is very desirable. As a *resumé*, when watering, do it thoroughly and well, forking the surface if needs be where the ground has been trodden upon in order to equalise the distribution of the water.

PEACHES AND NECTARINES.—INSECTS.—At this season in many gardens the earwigs are a great source of annoyance to these and other tender fruits. Their presence can easily be detected by the perforations of the skin, which at once affords means of access to bees, wasps and flies, as well as ants, and the fruits are quickly spoiled. If very badly infested, a small proportion of hot water may be poured along the wall below the foliage; this may catch many in the cracks or joints of the brickwork and at the surface too. Higher up amongst the branches the time-honoured remedy of Broad Bean stalks is very efficacious, and it will always pay to have a reserve of these or similar material for this particular purpose. By blowing them out daily into a pail with hot water their numbers may be considerably decreased. Failing this remedy, some screws of paper, if tucked in between the branches, will constitute a refuge, of which they will take advantage. The best plan to adopt with all fruits so attacked is to gather at once, and, if required, use them for stewing purposes, and so avoid any waste. For wasps and the like we have never found any trap to surpass that of three hand-lights and frames placed upon the top of each other, being raised from the ground by means of bricks, for providing an egress to which they are decoyed by partially eaten fruit and by any sweetened liquid. The only other provision to make is that of a small perforation of the glass at the apex of the hand-lights, save the topmost one. Bottles of liquid hung in the trees will catch large numbers, but this means is rather disposed to entice them where they are not wanted. The green aphid is still a little troublesome upon the points of some shoots, but the advice given is to stop it at once with either quassia extract or XL All Insecticide. To give advice as regards the destruction of wasps' nests is, perhaps, scarcely needed, but it is possibly not generally known that there is a most efficacious remedy in McDougall's squibs. These are far better than any dangerous poison, as sulphide of potassium, the absence of which from any garden is much to be preferred. Where it is seen that there is a superabundance of growths still upon Peaches or Nectarines it will be advisable to thin it out now, so as to admit more light and air to encourage a thorough ripening of the wood. It is comparatively easy now to judge the requirements in this respect, besides which any wounds now made will have a fair time to heal over. All lateral growths should also be thinned out, even upon young trees, where possibly some such have been retained in order to make as much progress as possible towards filling the wall space. Growths now in process of development, especially laterals, will not have much chance of ripening. See that all the fruits upon late varieties are well exposed to the sunshine both as regards colour and flavour, tucking the leaves on one side rather than stripping them off, and if the walls be wired, by trussing the fruits forward upon the wires by means of labels, so that they do not press against the wall. As a rule it will be found better to gather late varieties rather earlier than others if the weather should change to wet within the next week or two. They can be ripened tolerably well in freely ventilated vineries.

PLUMS.—These will if well established resist the drought better than most fruits, but do not allow the crop, if a heavy one, to hang too long, otherwise the trees must be taxed. We find it a capital plan to thin heavy crops, even of dessert kinds, and use them for cooking purposes, thus enabling the finer fruits to develop fully. Within

the next fortnight or three weeks the fruits of Coe's Golden Drop for keeping afterwards for late supplies should be taken off carefully, being stored in the fruit room quite thinly. It is a good plan to wrap each one in tissue paper and then let them lie at a good distance apart. Take note also of Ickworth Impératrice for the same purpose.

NOTES ON FRUIT TREES.—Notes of observation from time to time as regards different kinds of fruit are most serviceable. Not only does this apply to those trees under one's immediate care, but also to what may be seen under the charge of others. Take stock of any trees not so fertile as they should be, and consider what may be done in grafting or root-pruning, so as to be prepared in good time. Additions to the stock should be a yearly matter, for the obvious reason that to add steadily affords better chances of success if labour be at all scarce. Do not attempt to keep old or decrepit trees when young ones are so abundant and as cheap as one could wish them to be. Make a point of selecting all that may be required in good time, and mark them for early removal. In doing this do not be attracted so much by a strong or luxuriant growth as by a moderate one in which also good proportions exist.

HORTUS.

KITCHEN GARDEN.

AUTUMN CABBAGE.—The heat and drought have delayed planting, and when there has been sufficient rainfall to moisten the earth it will be well to make later plantings of Cabbage, for with a good breadth of this vegetable in the late autumn and early winter months, there will be less need to cut those kinds of vegetables that will keep. Any plants of early-sown autumn Cabbage, I mean that sown for the spring supply, may be planted rather closely, and in good land will make good cutting material in November, as it will not be necessary to have large heads. If the green crops of any kind have not made the desired progress it is now a good time to make up deficiencies, for, though too late to plant most of the Brassicas, it will be an easy matter to put in late breadths of Coleworts. These grow quickly and are useful. Such kinds as St. John's Day and Christmas Drumhead may be planted, as they will make fair growth by the late autumn, keeping solid and good well into February. For many years I have planted late Savoy for use at the time named, but I find the autumn Cabbage more useful in a private garden. Size is not needed and the quality is excellent. Of course, in planting these sorts there must be no delay, but the growth will be rapid as the earth is warm.

BROCCOLI.—Most of the plants are now making a fair growth. Owing to drought they needed rather more attention at the start, but by drawing rather deeper drills than usual water was more readily applied. If any plants are at all backward now they will well repay supplies of liquid manure, as the ground is comparatively dry, and with ample moisture the time lost will soon be made good. When the roots are moist, moulding up should not be overlooked. For the past year or two we have planted rather further apart than usual, and by so doing more soil can be secured for the moulding. This with the dwarf-growing plants is an advantage, as they suffer less in severe weather if there is scarcely a stalk exposed. I find it best to mould up as early as possible, as it prevents winds damaging large plants with heavy leafage. Late plantings of Model and Late Queen will need more time to develop before moulding, and in light soil these should not suffer for want of moisture, as they will be useful to fill in the space between the latest Broccoli and the early Cauliflowers. I note that some of the early varieties of Broccoli, such as Protecting and Early White, are badly attacked with fly and grub, and unless means are taken to check the progress of these pests the heads will be poor. With a greater rainfall the pest will not spread, but it will be advisable to dust over affected plants with soot and lime.

RUNNER BEANS.—The plants up to the early part of the month have borne grand crops when planted in trenches. The roots suffer less in hot, dry seasons, especially if they have a good root-run of rich material, should the soil be light or poor. Few plants will take greater supplies of moisture than the Runner, if it has a large top-growth, and many people allow the haulm to run 10 feet or more. With so much top rains cannot reach the roots readily, so that moisture must be given, or the flowers will drop and the crop be poor. Liquid manure given now will be of great benefit to the plants and cause them to make fresh growth. It will also be advantageous to top any kinds that are above the stakes, which will induce fresh breaks and later bloom. The climbing French Beans are splendid croppers; indeed, I think they will in time oust the true Runner, as the haulm takes less staking. The plants do well topped at 6 feet from the ground, and the produce is gathered so readily, the quality being excellent. Excelsior, Tender and True, and Veitch's Climbing are splendid types of this new class of Bean, and if the plants are well fed they produce an enormous quantity of pods. Late rows of Runners not staked, but kept stopped, will now be flowering freely. These must get liberal supplies of water should the weather be dry.

ONIONS.—If sowing has been delayed owing to the dry weather, advantage should be taken to sow at the first opportunity for early summer use, as these plants are always valuable in a small green state. Many sow the autumn crop rather thickly, but I do not think it is a good plan, as the seedlings get much weakened in the row. For drawing in a small state I would advise that a few rows be grown specially. These may be sown rather thickly and thinned out as required for use. The spring-sown plants should now all be cleared from their growing quarters, as, even when pulled and laid in rows, they suffer from the damp and grow again, which prevents their keeping. I mentioned in a previous note the importance of thoroughly drying, and there should be no difficulty in this way this season, the bulbs having ripened in dry weather. In storing, the small Onions, which are used for pickling, may be sorted and laid on boards in a cool place, and the small silver-skinned kind, if grown specially for that purpose, should be placed under cover if at all damp and spread out thinly, as it is well to have them as firm as possible before using; they are then of better colour and skin more evenly. The last-named is a good variety to sow now for use in the salad bowl in autumn.

GLOBE ARTICHOKE.—In light soil the plants have suffered from heat and drought, and, though they like warmth, moisture also should not be wanting. The plants will give a late supply of heads, if the old flower-stalks and a portion of the old leafage be cut away, and the plants given liquid manure or a copious supply of water after the soil has had a dressing of fish manure, guano, or other fertilisers. It will also be well to give the soil near the plants a good mulch of decayed manure, as this will conserve the moisture given and encourage new growth. For extra large heads late in the autumn it is advisable to thin them before they attain size, and when it is intended to make new plantation the best plants should be marked for the purpose, as there are spurious varieties of little value. Plants raised from seed will now need severe thinning out, but so far I have never had much success with seedlings, the heads being poor and prickly, and in many cases of little value except for a fine leafage. Now is a good time to pull out inferior kinds. The rows may be made good in the early spring by dividing. Of those that are good for stock and produce succulent heads, I prefer the large purple variety, but there are some good green kinds.

OTHER ARTICHOKE.—There is little work at this season among the Jerusalem variety, but what little is needed should be done. These plants are often left after planting till lifting, and placed in out-of-the-way corners, but they well

repay better culture. I find the tubers are finer and better shaped if less growths are allowed. This may be done by using the hoe freely and cutting away sucker growths. The white varieties appear to me to need more light and air than the old reddish tuber. The latter grows anywhere in ordinary soil, and the white round variety is worth growing, as it is much liked for its better shape and whiter flesh. The Chinese Artichoke, though not large, may be cooked in such a variety of ways that it should not be overlooked. It is better known as *Stachys tuberosa*, and, like the larger roots, well repays good culture. It will make poor progress if not given ample supplies of moisture, as it is a gross feeder and soon affected by drought. I find it advisable to mulch between the rows with spent manure to retain moisture given, and, as it makes a late growth, by giving food the tubers will be larger.

BEETROOT.—The season in many places has been bad for shallow-rooting crops, and the Turnip-rooted Beet, having but a small tap-root, has suffered from the heat and drought, which has affected the quality, so that no time should be lost in lifting the summer-grown crop and storing in a cool place. I would advise that the roots should be placed in damp soil in a north border, in preference to a dry shed, as they soon shrivel. Poor roots are not worth keeping, as they lack flavour. Later-sown roots will, with more rainfall, be more succulent and will now make rapid growth. I have sown the Globe varieties quite as late as this with fair results, as they soon bulb, and, the soil being warm with moisture, growth is rapid. Of course the roots are small, but they are very good and keep well. When sown late it will be well to give good land and, to secure the best results, sow thinly and keep the plants frequently hoed between. Beets are not nearly as tender as many people think. I have had the Turnip-rooted kind good all the winter in the open ground, merely covering it with long litter in severe weather.

WINTER CARROTS.—I have mentioned the importance of this crop in previous notes, and the ready way in which they may be grown, but our earlier sowings in July and August cannot be termed a success, as, with so little rain, the seeds failed to germinate freely. With moisture, growth now will be rapid, and other means may be taken, such as dusting over with soot in showery weather and giving a light dressing of some quick-acting fertiliser between the rows when damp. Fish manure and guano are both good for this root, and when well raked or hoed in, the offensive smell from the manure is not noticed. Up to this date thinning will have been delayed owing to drought, but there should be no further wait, and as these roots are drawn in a small state, severe thinning is not needed. In the northern part of the country I always sowed Carrots during the early part of September, in turf pits that had grown the early Potatoes or protected plants. Grown in this way there will be no lack of young roots from December to May, but avoid thick sowing and thin early. Air freely in fine weather and give moisture when needed. Seed sown under glass early in the year is so long forming roots that there is a great gain in sowing either in the open early in August or in frames, as advised, and such kinds as Early Nantes or French Forcing.

S. M.

Anomatheca cruenta.—This pretty little bulbous plant, referred to on page 171, behaves differently from most of our bulbs, as it flowers in such a short time when raised from seed, which readily ripens, and if sown early in the season will flower in the summer or autumn of the same year. So easily can it be raised from seed that if grown for the decoration of the greenhouse, and no attention is paid to the old flower-stems, self-sown seedlings will often crop up on neighbouring pots. This *Anomatheca* is a native of the Cape of Good Hope, and like many other pretty bulbous plants from that region, it is not much known. The bulbs are a good deal like those of a *Freesia*, but smaller, while the sword-shaped leaves are

disposed in two rows. The flowers, which are produced on scapes from 6 inches to 1 foot high, are nearly an inch across, and of a bright carmine-red colour, the lower segments being blotched with rich velvety crimson. While very pretty out of doors on a warm border, it may also be grown in pots for greenhouse decoration, in which case from eight to ten bulbs in pots 5 inches in diameter form effective little clumps. Where larger masses are desired pans are more convenient than large pots, and the *Anomatheca* being a shallow rooting subject does not require any great depth of soil.—H. P.

ORCHIDS.

PALUMBINA CANDIDA.

THIS has been rather fancifully called the Flying Dove Orchid, and though not a large or particularly showy kind, is interesting and pretty. It has small pseudo-bulbs and leaves about 8 inches in length, and the flower-spikes each bear about half-a-dozen blossoms. These occur in the centre of the young growth, and the individual blossoms are about an inch or a little over across, creamy white with a yellow centre to the lip. It is not so much grown in this country as it deserves, but whether this is from lack of plants or want of interest, it is certain that if a demand existed for them plants would be forthcoming. Many growers err in allowing too much heat, the consequence being that the plants soon get overrun with insects, and instead of strong, vigorous growth and flower-spikes, the pseudo-bulbs and leaves get weak and thin in texture and less flowers appear on the spikes. Although it is comparatively easy to destroy insects, the plants are weakened at first and their marks are often left to disfigure the foliage and bulbs. Some of the best plants of this kind I have seen were growing up close to the roof of a house where the autumn-flowering *Odontoglossums*, such as *O. grande* and others, were happy on the stages and *O. citrosum* was thriving on the roof. Rather a dense shade was put on to allow of some greenhouse Ferns to be included. Probably these conditions were somewhat similar to those obtaining in their native habitat; at all events, the plants were quite satisfied with the treatment, as the healthy, vigorous growth and freedom of flowering testified.

This class of Orchid not only likes cool, shady treatment in summer, but during the winter it likes as much light and air moving about the bulbs and foliage as possible. Droughts and cold winds are wrong, but if the air can be kept moving by opening the top ventilators slightly and allowing a fair amount of air at the same level as the hot-water pipes, the plants will one and all be better for it. The atmosphere must also be kept moist, and thus the plants come away freely in spring and grow freely without any check. The roots like a fairly firm root-hold, and not too much of it, as they seem more at home in small pans or baskets where the room is limited than when placed in the middle of a large pot, where they never feel the rim. The peat should be of a very fibry character and kept apart by small pieces of finely broken crocks rather than large lumps of charcoal. A little chopped Sphagnum Moss is also a good addition, and about an inch of this mixture over good drainage is sufficient for medium-sized plants. A good deal of care is required in watering at the roots, for very little suffices except when the plants are most actively growing. While at rest the roots may be kept quite dry for a considerable time, provided the atmosphere is fairly moist. Light syringings are helpful in

summer by keeping insects in check and a suitable atmosphere about the plants. *P. candida* is a native of Guatemala, and though, from a strictly botanical point of view, the name should be *Oncidium candidum*, the above is the one by which it is far better known. It was discovered by the Horticultural Society's collector in 1840, and first flowered in this country a year or two later in Messrs. Loddiges' nursery.

Cypripedium Smithi.—This is one of the Lawrenceanum hybrids, its other parent being the beautiful *C. ciliolare*, both of which it resembles, though of course it partakes more largely of the former fine species. It is much more refined than *C. Gowerianum*, or indeed any other I have seen in this class, of a lovely tint in the upper sepal and showing *C. ciliolare* in the petals and pouch. It is a very fine hybrid, raised by Messrs. Sander and Co. at St. Albans.

Epidendrum cochleatum.—This is the name of the species coming from "*C. C.*" and not *E. prismatocarpum*, an entirely different species. *E. cochleatum* is one of the section called "*aulizeum*," and has an inverted shell-like lip. It is one of the very oldest of known species, having flowered in the Royal Gardens at Kew considerably over 100 years ago. It is an easily cultivated species, thriving well in a house devoted to Cattleyas and *Lælias*. The most ordinary treatment as to roots and watering suits it perfectly. It is a widely distributed plant over a great deal of Central America.

Oncidium pulvinatum (C. C.).—This is correct, and a very pretty, useful species it is, flowering with great freedom over a long season and lasting well in good condition. It may be grown with the greatest ease by anyone acquainted with Orchids. The plants may be cultivated in pots, with good drainage and a compost of two-thirds Sphagnum Moss to one of peat, plenty of hard material being introduced. During the growing season it requires plenty of water, and also while the strain of flowering is going on. In fact, a fair supply of moisture is required all the year round. It is a native of South America, introduced in 1838.

Odontoglossum purum.—It is seldom that this species is shown or seen in anything like presentable condition, but when really well grown the flower-spikes are long and many-flowered, the blossoms individually about 2½ inches across, and very pretty. The sepals and petals are brownish, edged and sometimes blotched with tawny yellow. It has a fiddle-shaped lip, like a small *O. Pescatorei* in shape, usually of some shade of purple. It is a native of Venezuela, and likes rather more warmth in winter than most *Odontoglossums*; otherwise the culture of this species does not materially differ from that of other kinds. It does best in medium-sized receptacles, and must be kept moist all the year round.

Odontoglossum tripudians.—This is one of the most useful in the genus, as it nearly always flowers when few others are at their best. The blossoms are not quite so showy as those of *O. triumphans*, but they come as near this species as any. In its best form they are about 2½ inches across, the sepals and petals golden yellow, almost entirely covered with a large chestnut-brown blotch, the lip white or yellow, blotched with more or less deeply coloured rosy blossoms. It does well in quite a cool house all the year round, and is quite at home with such species as *O. Pescatorei*—with which it is sometimes imported—and *O. crispum*, the treatment in other respects being similar. It comes from New Grenada, and was introduced to this country by Messrs. Hugh Low and Co.

Oncidium Batemanianum.—This is a very pretty *Oncidium*, and I have noted it in good condition in several collections of late. The blossoms occur chiefly at the ends of the spikes, these being about 3 feet in length. The individual flowers are bright yellow, with blotches in

the sepals and petals of a pretty brownish tint. The crest on the lip is complicated in structure, but very pretty, and the blossoms last well in good condition. It is an Orchid about which a good deal of difference of opinion exists among botanists, and it has several names. Being a native of Minas Geraes, in Brazil, an intermediate temperature suits it best, and the plants are best in medium-sized pots or baskets in a compost consisting of equal parts of peat and Moss. It is singularly inconstant in its time of growing and flowering.

Sobralia xantholeuca.—This and the fellow species, *S. leucoxantha*, are two of the most lovely of *Sobralias*, and, fleeting as they are, the plants are well worthy a place wherever room can be found for them. Both foliage and flowers are strikingly handsome, and the number of flowers successively produced makes up for the evanescent character of the individuals. Their culture is so extremely simple that anyone even unacquainted with Orchids may, if the requisite heat and moisture is at command, grow them with the greatest ease. Large old plants may be freely divided for stock purposes, and as long as the divided portions have a lead or two they are sure to live and do well. Allow fairly large pots and drain them well, giving as compost equal parts of peat, loam, and chopped Sphagnum or leaf-mould. The roots are very strong and fleshy, and will take hold of an exceptionally strong compost, but this, on the other hand, must not be heavy; it must be well lightened up by the addition of large rough lumps of charcoal or crocks. Growth commences in spring and is very rapid until the apex is reached and the flowers produced. All this time a very free supply of water is necessary, but this may be considerably reduced while the plants are at rest.

LÆLIA XANTHINA.

ALTHOUGH for size this *Lælia* cannot equal many others in the genus, it is an extremely pretty plant, the colour of the flowers being very distinct. The pseudo-bulbs are about 6 inches high, and each bears a single leaf, from the base of which the flower-scapes issue. The latter bear about half a dozen flowers when the plants are strong and well grown, but usually there are not more than three. They measure about 3 inches across their widest diameter, the sepals and petals being yellow, differing considerably in intensity—some quite a golden tint, others more of a buff-yellow. The lip is yellow in front, streaked with purple. The culture of *L. xanthina* is not always so successful as one might wish; it is rather a difficult species to establish, and only a week or two since I saw a fine batch in flower, but on examination not one of the plants had made any roots to speak of, though they had evidently been imported some considerable time. Where many fail is in allowing too much moisture at first. Before the roots have time to get out into the new material water is freely poured about the plants, and this injudicious watering will often mean the ruin of the few roots that appear. It is better by far to keep up a moist atmosphere, and, by gently spraying the plants in hot weather, endeavour to induce root action. Should flowers appear before the plants have made roots they ought not to be allowed to open; but if they are particularly wanted, let them be cut directly they are at their best. By these means the plants will have nothing to check them, and if the temperature is kept well up—for *L. xanthina* requires a full Cattleya temperature at least—roots should be produced in plenty, and the plants will soon establish themselves. It is not a particularly vigorous-rooting species at any time, and for this reason the compost need only be thin, about an inch of good peat and Moss sufficing for plants large enough for 4-inch or 5-inch pots. This species also does well as a basket plant if suspended not far from the roof-glass in a sunny position, using the same compost as for pots. Regarding its flowering season it is very incon-

stant, blooming sometimes upon the young wood in autumn, and sometimes in spring after resting in sheath. During the winter the roots must be kept well on the dry side; in fact, it is not a very thirsty species even when making its growth. It is a native of Southern Brazil, and probably not a very plentiful species in its habitat. It was introduced by Messrs. Backhouse in 1858.

HYBRID ORCHIDS AT ST. ALBANS.

IN the hands of a very efficient grower the hybridising department at Messrs. Sander's nursery is making rapid strides. There are many thousands of seedlings in all stages of development and from all kinds of crosses, and those who are privileged to look through the houses cannot fail to find them interesting and instructive. The seed is sown on the compost of thriving young plants of ordinary kinds, principally *Cypripediums*, and very beautiful little specimens some of these are. The difference in plants so well treated as these are, and others in the half-starved condition sometimes seen, is very remarkable, such kinds as the somewhat erratic *C. Spicerianum* and others finishing up lovely growths with immense leaves. Thus the seedlings get a good start in a clean compost, and the pure air of the district, too, has doubtless a good deal to do with their thriving appearance. They grow rapidly, whether they are *Cattleyas*, *Cypripediums*, or what not, the same health, vigour, and cleanliness being observed in all. Little plants, potted only a few days, were already pushing the little white roots which steady them in position and ensure their well-doing. It is interesting to note the white appearance of the seedlings in the early stages, also the difference—early apparent—between seedling *Cattleyas* and *Cypripediums*; the way the tiny bulbs of the former seat themselves as it were on the top of the compost showing thus early their epiphytal habit, while those of the *Cypripediums* seem to try and hide themselves under the compost. This, too, before a single leaf has appeared in the very earliest stages. Then again, the *Cattleyas* from the first are quite green, while many of the *Cypripediums* are quite white, others green and white. A very fine spray which settles on the plants in the form of dew is frequently used, and greatly to the benefit of the plants. Handling as they do so many thousands of newly-imported plants, Messrs. Sander have the pick of a lot of good varieties as parents; thus the hybrids as they flower are mostly of great merit.

NOTES AND QUESTIONS.—ORCHIDS.

***Cattleya gigas*.**—The season is getting over for this superb *Cattleya*, but I noticed some lovely varieties at St. Albans recently. The *Sanderiana* and imperialis varieties are especially fine and well coloured, and I think generally the plant has done well this season. Its cultural requirements have often been noted, and it is a species that should be grown by all.

***Cattleya Mendeli*.**—This is usually one of the most constant of *Cattleyas* and seldom seen out of season, but I have noted it on two separate occasions flowering, not on an old bulb, but on the apex of the current year's growth after the manner of *C. Gaskelliana*. It is a pretty plant, and is usually easily distinguished from the rest of the labiata group by the white markings about the lip.

***Epidendrum prismatocarpum*.**—This I have noted in flower during the week, and though the individual flowers are somewhat small they are very pretty and bright in their peculiar combination of green, dark purple and rose. They occur on erect spikes from the top of the pseudo-bulbs and last a long time in good condition. It is not a difficult plant to grow, thriving in an intermediate house treated similarly to a *Cattleya*.

***Stenoglottis longifolia*.**—In one of the cool Orchid houses at St. Albans there is a splendid batch of this pretty terrestrial species, a species that is so easily grown and useful and so easily propagated, that one wonders why it is not much

more seen. The plants here are in 6-inch pots, and though all bloomed freely in spring, every young growth has now a fine flower-spike appearing. Many are fully expanded, and there is enough to carry on a fine display for a very long time. It is propagated by dividing the crowns, and grows freely in quite a cool house in a compost similar to that used for the terrestrial kinds generally. There is no need to elevate the plants above the rims and plenty of water is required.

FRUIT AND VEGETABLE CROPS.

WESTERN.

Witley Court, Stourport.—In this district the fruit crops, on the whole, are very satisfactory. Apples are an excellent crop, and the fruits of a nice even size and clean. It matters little whether bush trees or standards, the result is the same. As showing the result of more extended freedom of growth in Apple trees, I have a large quantity of half standards which for years had been kept spurred in, but from leaving the growths intact, merely thinning them out to prevent crowding, the trees this season are bearing splendidly. Pears on wall trees are a fair crop, but thin on trees growing in the open. The fruits, however, are very clean and good. Plums are good, and the crop on wall trees exceptionally so. The majority of these latter were in bloom at the time of the blizzard in March, and although only protected with a single net the set was enormous; consequently the fruits have had to be thinned very heavily. This operation is imperative both to gain size in fruit and also not to jeopardise the chances for next season. It matters little how you feed a heavily cropped tree; it is bound to feel the ill effects of overcropping the following season. Apparently, as long as the atmosphere is dry fruit blossom will withstand much colder weather than it is credited with. I quite expected to see the whole shatter off. Apricots are the best crop I have seen in this district for years, although they had to withstand many a cold blast. Cherries were and are splendid. It is many years since the farmers received such remunerative prices. Peaches and Nectarines are good; the trees healthy and clean. Amongst small fruits Black Currants are under the average. Strawberries, though quite a fortnight later, were quite satisfactory. Filberts, Cobs, and Walnuts are a good average crop.

All kinds of vegetables are good, the exception being Carrots; most of the seed failed to germinate. Early Peas were good, and from the later kinds I expect to gather satisfactory crops. Midseason varieties went off quickly through drought. Potatoes are clean and good without any sign of disease. On the whole the vegetable crops are quite up to the average.—A. YOUNG.

Knightshayes, Tiverton.—In this garden there is a very fair average crop of Plums, Apricots, Apples, Cherries, Gooseberries, Black and Red Currants. Pears, Peaches and Strawberries are not so good. There was plenty of flower on the Strawberries, but owing to so much dry weather the fruit did not set well. I have heard a good many complaints of Apples falling very badly in the orchards round about here.

Vegetables have turned out very well, although a little late. Beans of all kinds have done very well. Early Potatoes have been excellent both in crop and quality.—J. DICKENS.

Castle Hill, Devon.—Strawberries are a good crop and the fruit fine. Currants and Gooseberries are also very fine. Pears are a very heavy crop. Apples are very thin; there was plenty of blossom, but it did not set well. Plums are rather thin. Early Peaches were very fine, but late ones are a medium crop. Cherries set well, but a great many dropped off when stoning.—W. H. PEARSON.

Yate House, Chipping Sodbury.—Apples and Pears are much under average and very partial. The trees blossomed well and set

abundantly, but the fruit was cut off by the severe frosts and cold east winds we had in the middle of May. Plums are thin. Cherries a fair crop. Peaches and Nectarines above average, and required a lot of thinning. The Peach trees outside are covered with canvas during cold weather. Currants, Black, Red and White, are above average, fruit clean and large. Gooseberries above average and very large. Strawberries are good. Raspberries a fair crop. Filberts and Cob Nuts are fairly good.

Vegetables taken altogether are very good. Potatoes are very good and clean and free from disease. Peas have been abundant and good, but late Peas have suffered from the drought. Onions, Beet, Parsnips and Carrots are very good. Celery and all kinds of Brassicas are doing well.—W. T. MOBSBY.

Abberley Hall, Stourport.—The fruit crops in this district this season are a fairly good average all round. Apples are very good, much better than I have had them for several seasons. Gooseberries and Currants, both Black and Red, have been very good, also Strawberries and Raspberries. I do not think the Peaches and Nectarines outside look quite so well as last year, but still there is nothing to complain of. Cherries have been a wonderful crop this year, the best known in this district for some time. Nuts, especially Walnuts, seem to be very abundant.

Potatoes I do not think will be such a good crop as last year.—WILLIAM CONWAY.

Widcombe House, near Taunton.—The fruit trees had plenty of blossoms and began to set well, but the very cold nights and frost in May cut most of it off. Pears and Apples are half a crop and rather small, owing to the drought. Cherries are a fair crop. Plums very scarce. Peaches poor outdoor. Red and Black Currants are excellent in every way, also Gooseberries. Raspberries and Strawberries did well.

Potatoes are turning out well, tubers large and free from disease. It is a fair season for vegetables around this part. It is six miles from Taunton on a high hill 900 feet above the sea level. The soil is very sandy and light.—E. ELSON.

Shotover Gardens, Wheatley, Oxfordshire.—Strawberries and bush fruits of all descriptions are abundant. Apricots are an average crop; fruit large and fine in appearance. Apples much under average. Plums medium.—J. BROADFOOT.

Iwerne Minster, Blandford.—The fruit crops here are very good, wall fruit especially. Pears and Plums are plentiful. Apricots a fair crop. Apples are scarce. Small fruit abundant. Strawberries were excellent. Royal Sovereign is the favourite sort here both for pot culture and general and main crop. It deserves all the praise that is bestowed upon it.

Vegetables are very plentiful, which was more than expected, as during the early spring it was a great trouble to keep the young plants free from insects.—T. FOKES.

Whiteway, Chudleigh, Devon.—Early Cherries are poor, but Morellos are bearing well. Plums are poor. Small fruits, including Strawberries, are good. Pears are not so good, the fruit being small. Apples are an average crop, while Peaches and Nectarines are both good. The spring frosts caused a good deal of damage to Plums and early Cherries, and the drought since prevented the swelling of Raspberries to their usual size.

Vegetables of all sorts are fairly good, with the exception of late Peas, which are suffering from the dry weather.—JOHN D. NANSCAWEN.

Trelissick, Truro.—Apples are a fair average crop of most sorts, but there is every appearance of their being small. Peaches and Nectarines are very good and the trees unusually free from blister and insect pests. Early Alfred I gathered out of doors on July 10. Pears are fairly good; some trees are carrying a heavy crop. Cherries and Figs are the worst for years. Plums are very poor except Victoria, which promises well. The extensive Plum orchards in this neighbourhood are carrying abnormally heavy crops.

Bush fruits are very good, especially Gooseberries. Apricots and Nuts never do any good here.—W. SANGWIN.

Kimbolton Castle Gardens, Hunts.—Strawberries were a good crop, but soon over owing to the drought. Raspberries were an average crop. Gooseberries were very plentiful, also Red and White Currants, but rather small. Peaches are a good crop. Apricots only a fair crop. Plums are much below the average, also Morello Cherries. Apples are a fair crop and very small, owing to the blight in the early spring. Pears are almost a failure. On the whole a very poor fruit year.

The first sowings of Peas were very good. I consider the best early Peas Exonian, Gradus and William the First, and for late crops I find Ne Plus Ultra yield the best. All other vegetables are very good this season.—J. HEWITT.

Toddington, Winchcombe, R.S.O.—Apples are rather over average and of fair quality. Plums over average; trees attacked with aphids. Pears under average and poor in quality; trees badly blighted. Peaches, Nectarines, and Apricots are under average. Strawberries are an average crop of good quality. Raspberries rather under average. Black and Red Currants average; quality good. Nuts and Walnuts under average.—T. CLEARE.

Norton Manor, Radnor.—Stone fruits are very scarce. Apples and Pears under average. Morello Cherries very good. Strawberries have been very good. Gooseberries a heavy crop. Black and Red Currants very good. Raspberries good.

Vegetables are very good in quality with the exception of Carrots and Cauliflowers, which have been infested with grubs.—WILSON PALLISER.

Clyffe Hall, Wilts.—Of early and midseason Apples there is a good show of fruit, but the Codlin moth is playing sad havoc, and many are falling. Late Apples are scarce. Pears are also scarce. Plums and Damsons are good generally, except in very exposed positions. Peaches, Nectarines, and Figs are good this year. Strawberries have done well where they were watered and mulched. Raspberries are scarce. There was a good show of flower, but a fall off in setting. Cherries flowered freely and looked promising in the spring, but the late frost and keen east wind at the time of setting ruined all fruit prospects for this season. Gooseberries and Currants have been very heavy and plentiful. Nuts are showing well except Walnuts, which are scarce.—S. G. HILLIER.

Bicton, Devon.—All kinds of fruit promised exceptionally well early in the season, and the majority have and are cropping well. Strawberries were an exceedingly heavy crop in spite of the drought experienced here while the fruit was swelling, Royal Sovereign, Sir Joseph Paxton, President, Empress of India, and Leader being the best. The first-named was the first to ripen its fruit, but quite ten days later than last year. Raspberries (Superlative), Black, White, and Red Currants have been loaded. Plums are carrying excellent crops against walls and as standards in the open, and sweet Cherries have been very good against an east wall. Morellos on north aspect have heavy crops. Apples are clean, the majority of trees carrying good crops, Peasgood's Nonsuch, Duchess of Oldenburg, Lord Suffield, Ecklinville, Golden Spire, Kerry Pippin, King of the Pippins, Margil, Cox's Orange Pippin, and Ribston Pippin being the best. Trees in the orchard have medium crops, the trees suffering just now badly from drought, a great many fruits dropping off. Apricots have done better than they have for the past three years. Peaches and Nectarines are a good crop on south walls, but very thin on an eastern aspect, where the majority of our trees are. For this I blame the very cold winds during the flowering period. They were one mass of flower and appeared to have set well, but the majority ceased to swell after about the size of a Pea,

eventually dropping off. Pears are a fairly even crop, far better than last year. Doyenné du Comice, Winter Nelis, Beurré Diel, B. Bosc, B. d'Amanlis, B. Superfin, B. Easter, Pitmaston Duchess, and L. Bonne of Jersey are all heavily laden and free from cracking. Taken altogether I consider this a most excellent season for all kinds of fruit.—J. MAYNE.

Blackmore Park, Worcester.—Apples are under average. Blenheim Orange, King of the Pippins, Worcester Pearmain, Hawthornden (New), Dumelow's Seedling, and Lord Suffield are the best. Pears and Plums are under average, quite a failure in some gardens and orchards. Cherries are over average. Peaches and Nectarines fair, but Apricots are under average. Small fruits, including Strawberries, have been good.—A. AUSTIN.

Shobdon Court, Hereford.—In this neighbourhood the Apple and Pear crop is much below the usual average, yet one meets in orchard and garden a few trees carrying a good crop. In these gardens, Strawberries, Currants, and Gooseberries have been good and abundant, all stove fruits a failure. Of Apples bearing fairly well, mention may be made of King of the Pippins, Yellow Ingestre, Tom Putt and Forester; of Pears, Williams' Bon Chrétien, Beurré Rance and Bellissime d'Hiver. The cider Apples in orchards are a poor crop, the variety known as The Green Norman in some cases is loaded with fruit, but many of the orchards are without a crop at all, and the trees appear to be run down with old age and neglect.

All vegetables are showing the effects of the long and continued drought, very little rain having fallen during the last three months.—THOS. PLUMB.

Compton Bassett, Wilts.—Of Apples some varieties are excellent, while other varieties are very poor. Of Pears there is an average crop upon most trees; Louise Bonne, Marie Louise, and Jargonelle are bearing heavy crops. Peaches are excellent. Of Strawberries, Royal Sovereign, Keens' Seedling, Sir J. Paxton, and Latest of All are the best. Gooseberries, both dessert and cooking, are very good, while Currants and Raspberries are also good. Plums are under average, though some varieties have good crops. Apricots are good, Shipley being the best. Cherries are good, but the trees are covered with blight and want a lot of attention. Medlars and Quinces are under average. Walnuts and Filberts are average crops.—W. A. COOK.

Rood Ashton, Trowbridge.—On the whole the fruit crops here are above the average both in point of quality and quantity, notwithstanding the unfavourable influences brought about mainly by frost, cold winds, or drought. Insects were never more persistent, nor were birds more dependent on garden fruits for their sustenance than during the past few weeks. Apples generally are a fair crop, some bearing heavily, others few, or none, the latter remark applying very curiously to the late-flowering Court Pendu Plat. Those bearing full crops include New Hawthornden, Lane's Prince Albert, Ribston Pippin, Golden Noble, Cox's Orange Pippin, Cellini, Yellow Ingestre, Stirling Castle, Worcester Pearmain, Peasgood's Nonsuch, Adams' Pearmain, Lord Burgley, Mannington's Pearmain, Ecklinville, Beauty of Bath, Warner's King, and Hoary Morning. Pears are not so uniform as Apples, a great quantity having fallen off after they had swollen to a size usually considered safe. The freest fruiting trees are Williams' Bon Chrétien and Beurré Clairgeau. Others bearing average crops are Beurré d'Amanlis, Duchesse d'Angoulême, Beurré St. Louis, Dunmore, Seckel, Beurré Hardy, Doyenne Boussoch, Louise Bonne of Jersey, Soldat Laboureur, Althorpe Crasane, Brown Beurré, Marie Louise d'Uccle, and Doyenné d'Ete. The cold, frosty winds occurring at the flowering and setting periods undoubtedly account for the very partial crops of Pears, and this failing is more conspicuous in some gardens than in others. Plums, too, vary very much.

Here, there is quite an average supply, but there are cases in the neighbourhood where thinness rather than plenty is predominant. Of Green-gages there is a heavy crop needing an early thinning, but Coe's Golden Drop, the most largely grown of all, because so useful in late summer, is not bearing so full a crop as usual. Neither are Kirk's and Jefferson's, two varieties which supply such excellent summer Plums. Pond's Seedling and Victoria have both needed severe thinning on walls, as also have Prince Englebert, Blue Imperatrice and Early Prolific. Washington as usual is thin, but the late Gages are more plentiful. Cherries, particularly Morellos, set thickly, but the persistent attacks of aphides as usual caused many to fall prematurely. Dessert sorts fared similarly, yet May Duke and Governor Wood carried full crops. Apricots generally are thin, some trees and sorts very much so; others, Kaisha in particular, having to be thinned, so thickly did it set. Moor Park has about half a crop. Figs did not suffer any harm in the winter, and are now giving promise of a very good autumn supply. Strawberries have been excellent, though in my case rather late. Royal Sovereign, Vicomtesse H. de Thury and President supply the earlier fruits, the first named, it is needless to say, predominate the most largely. Sir Joseph Paxton has given a fine crop of bright berries. James Veitch, Unzer Fritz, Elton Pine and Eleanor have not done so well. Latest of All is my mainstay, and has fruited marvellously, and the berries have been all that one could wish for in size. It does best with me as an annual; two and three year old plants bear no comparison, neither in weight nor quality with the yearling beds. Monarch, Leader, Gurton Park, Georges Lesuir and Dr. Hogg are on trial, but their crop does not justify an expression of opinion as to their merits. Raspberries are the best I have had for the past six years, Superlative yielding the heaviest crop and much the largest berries. Black and Red Currants have given good returns; generally there has been a complaint of the smallness of the berries and indifferent quality of the first-named. The reds have been much better. Gooseberries were extremely thin, but fine in berry. The March frosts destroyed the embryo fruits. With me they bore the best crop on trees occupying a north border. Damsons are thin, Medlars average, and Nuts a full crop.

Vegetables have been abundant and good, Peas in particular, although the early sowings were badly crippled in March. Runner Beans have grown well, but the absence of rain caused the early flowers to drop without setting, so that the crop is late. Dwarf Beans were much hampered by slugs, and Turnips equally so with the flea. I never saw such mischief done by these troublesome pests to early sowings as this year. Potatoes are ripening prematurely, and on poor ground the crop will be very indifferent. The early and second early varieties are yielding a heavy crop on good land, and late ones give promise of a fair crop, but this cannot long remain so without rain. The rainfall for the last six weeks is less than half an inch in this neighbourhood, and garden crops of all kinds are suffering from the effects of this and the attendant tropical summer weather.—W. STRUGNELL.

Cirencester House, Gloucester.—The fruit crops in some gardens are almost a failure, while not many yards distant a fair crop may be found. Strawberries were fine in every way in this garden. Apples are good. Pears scarce. Small fruit fair. Cherries good. Apricots, Peaches, and Nectarines fair. Plums good.

Vegetables have been excellent up to the present date, but are now suffering from want of rain. It is now a month since we had anything like a soaking of rain. Potatoes are good and no disease, but require rain to finish them off.—THOS. ARNOLD.

Tregothnan, Truro.—The fruit crop here is the best we have had for several years. Apples and Pears are rather thin, but all other fruits are about average. Peaches and Nectarines are excellent, both with regard to crop and health of

trees. Cherries (Morello) and Plums are good. Red, White, and Black Currants good average. Raspberries and Gooseberries a very heavy crop. Strawberries by far the best we have had for the past five seasons.

Vegetables are variable. Early Potatoes are very good both in quantity and quality, but late varieties have suffered from drought and will be small. Onions were badly infested with mildew early in the season; consequently the bulbs are small, but they are ripening nicely. Peas early and midseason gave good returns, and late varieties are doing well. Broad, French, and runner Beans are giving good crops. All the Brassica tribe with the exception of sprouts are doing badly, many of the plants going blind. All root crops are very promising. —WM. ANDREWS.

Castle Gardens, Sherborne.—Fruit crops in this neighbourhood are generally very poor. The prospects in the early spring were the best I ever remember. After the Pears had set a beautiful crop sharp frosts and cold east winds set in, which played sad havoc with them. Plums shared the same fate. Apples being a little later escaped, and of the following sorts we have good crops: Bismarck, Beauty of Kent, Blenheim Orange, Cox's Pomona, Easter Pippin, Ecklinville Seedling, Kerry Pippin, Lady Henniker, Lane's Prince Albert, Lord Suffield, Lord Derby, Peasgood's Nonsuch, King of the Pippins, and Sturmer Pippin. Peaches and Nectarines are very thin; they bloomed too early and were badly cut. Of Apricots I had a nice sprinkling. Morello Cherries are a heavy crop; other sorts do not thrive here. Raspberries and Strawberries have been more plentiful than for many years. Bush fruits generally have been very good. Nuts are scarce.

Early Potatoes are very good, but small, and owing to long drought I fear the later ones will be no better in size. The vegetable season has been very good on the whole.

Stourton Court, Stourbridge.—All sorts of small fruit have been plentiful in this district, especially Strawberries, which have been a splendid crop. Plums and Damsons are almost a failure; the latter quite so. Pears are a good average crop, also Apples.

Early vegetables did very well with me, as they got a good start before the dry weather came. —T. SIMPSON.

TREES AND SHRUBS.

A NEW FRUITING TREE—FEIJOA SELLOWIANA.

AMONG the woody plants which I introduced alive into Europe on my return from a journey to La Plata in 1890, I consider the subject of this note to be one of the most important and useful in horticulture. It is a true fruit tree. That its native country is South Brazil and Uruguay shows that it will thrive in Mediterranean provinces, Algeria and Tunis. The specimen I possess of it in my garden at Golfe-Juan produces both fruit and flowers; it is now 11 feet 6 inches in height and of equal breadth. In form it is bushy, but it can be got high in the stem, too. Feijoa Sellowiana was named by Berg after specimens obtained by Sellow in Southern Brazil, not far from the Uruguayan frontier. This is the region of the *Cocos australis*, which alone is sufficient indication of the climate suitable for the cultivation of the new arrival. The species Feijoa was dedicated by Berg to J. da Silva Feijo, Director of the Natural History Museum of St. Sebastian, in Brazil. This name was substituted for that of *Orthostemon*, which at first he invented for the *Myrtacea*, the subject of this note, but afterwards withdrew from it on finding it already applied to a species of *Gentiana* established by Robert Brown. The

change of name was noted by the author himself in his "*Flore du Brasil*." The description given of the plant by Berg was made from some dried specimens obtained from Sellow, who gathered the plants in the province of Rio Grande de Sol and, as it appears, in the neighbourhood of Montevideo, where the plant is

by Gaudichaud in 1833, and belonged to the Imperial Herbarium of Brazil, where the plant is numbered 1322. Another specimen which was given by the Herbarium of Berlin in 1861 was obtained from Sellow himself, and shows the flower open. But these precious examples have not sufficed to enable the artist who made



Feijoa Sellowiana.

known by the name of "Guayabo del pais." Gibert also in his account of the plants of Montevideo mentions it. The herbarium of the museum contains some good dried specimens of buds and young fruit, brought from the province of Rio Grande, which were gathered

the drawing to give the exact forms of the petals, which are cucullate, not flat; and the description given by Berg is insufficient also, because it makes no mention of this peculiar form, nor of the colour of the corolla, which is a violet-red within and white outside. Another

species gathered by Sellow near the town of San Francisco de Paulo, in the same province, and named by Berg F. obovata, differs from Feijoa Sellowiana in its smaller stature, in its compressed branches and in its transparent and punctured leaves; it has not yet been introduced.

We are now, therefore, in possession of a new fruit tree in the Côte d'Azur, and the warm regions of the Mediterranean basin and even other countries of colonial France.—ED. ANDRÉ, in *Revue Horticole*.

SOCIETIES AND EXHIBITIONS.

THE NATIONAL DAHLIA SOCIETY.

SEPTEMBER 2 AND 3.

THE annual exhibition of this society was held at the Crystal Palace on the above dates, and may be said to have filled the whole length of the nave, in addition to which there were collections of Dahlias and other flowers at the sides, furnished by leading nursery firms, not for competition. The light was good, and all the types of the Dahlia were seen to the best advantage.

The large show and fancy varieties generally lacked refinement; it is one of the results of the changeable temperature in association with the drought. Still there were some very fine blooms staged. The Cactus varieties increase by leaps and bounds; new shapes and colours appear, and it is pleasant to record decided improvements in the habit of growth, which better fit the type for employment for decorative purposes in the garden. Such fine varieties as Messrs. J. Burrell and Co.'s Lucius and Mr. J. Stredwick's Magnificent seem to have almost reached the highest ideals in these types. Mr. T. W. Girdlestone's charming new varieties of the single Dahlia are so attractive, that they are certain to cause a revival of interest in this type, while the pompon varieties, once so tall and irregular in growth, are now dwarf, compact, singularly floriferous, and invaluable as garden plants.

The leading class for show Dahlias was for sixty distinct blooms, the fancy varieties being allowed to be shown with what is technically termed the show varieties proper. The first prize was awarded to Mr. John Walker, nurseryman, Thame, and his best flowers may be taken as representing some of the finest in cultivation. They were Chieftain, Duchess of York, extremely bright in colour; Majestic, Florence Tranter, a charming light variety; R. T. Rawlings, S. Mortimer, William Rawlings, J. C. Vaughan, Arthur Rawlings, J. T. West, Duke of Fife, rich scarlet; Mrs. Gladstone, a most constant and delicate light variety; Rev. J. Godday, William Powell, our best yellow self (this bloom was selected as the best in the entire show); Nubian, Shottesham Hero, a light ground flower, tipped with deep purple; John Walker, the finest white self; Golden Gem, Harry Keith, Dorothy, Perfection, Jas. Cocker, Harry Turner, Shirley Hibberd, James Stephens, Muriel Hobbs, a highly promising new variety of this year; Wm. Keith, Hercules, Mrs. Mortimer, and Mrs. Langtry. The second prize was awarded to Mr. C. Turner, Royal Nursery, Slough. Mr. S. Mortimer, Farnham, was third. Mr. C. Turner, who appeared to have put his strength into this class, was placed first with forty-eight varieties distinct, including R. T. Rawlings, Prince of Denmark, John Bennett, &c. Mr. J. Walker was second, repeating in this class the varieties he staged in the previous one. Messrs. Keynes, Williams and Co., Salisbury, were third, and Mr. S. Mortimer fourth.

In the two following classes there was an entire change of exhibitors. The best thirty-six varieties were staged by Mr. W. Treseder, Cardiff, who had good blooms of Dr. Keynes, one of the most distinct show Dahlias in cultivation. Mr. George Humphries, Langley, Chippenham, was third, and Messrs. Kimberley and Son, Stoke, Coventry,

fourth. With twenty-four varieties Mr. G. Humphries was first, Messrs. C. Kimberley and Son second, and Mr. M. V. Seale third. Quite another section of exhibitors showed twelve blooms of Dahlias in division C, and there was a very close competition. Mr. J. Stredwick, Silverhill, St. Leonards, came in first with good blooms. Mr. J. R. Tranter, Henley-on-Thames, was second; his best blooms were J. T. West, Florence Tranter, Rosamond, Mrs. Langtry, George Rawlings, Perfection, &c.; third, Mr. W. Baxter, Woking. Then came an open class for fancy Dahlias in which only striped or tipped flowers can be shown. All striped flowers are necessarily fancy varieties, but while a pale ground flower with a darker colour on the petal edges is termed a show Dahlia, any flower in which the darkest colour is at the base and the lighter colour at the tip of the petal is known as a fancy flower. Most of the striped flowers and all the tipped ones are very attractive, and though the difference in point of quality between the show and fancy varieties is not nearly so marked as it was a few years ago, the sections are still kept apart, though in all the foregoing classes they could be shown together. Mr. J. Walker was first with twelve fancies, though it was a near thing between him and Messrs. Keynes and Co. Mr. Walker had Rebecca, Mrs. Mortimer, S. Mortimer, Duchess of Albany, Buffalo Bill, Comte de Sceaux, Hercules, Professor Fawcett, Cherub, Mrs. Saunders, Dorothy and the Rev. J. B. M. Camm. Messrs. Keynes and Co. were second and Mr. G. Humphries was third. Next came the open classes for Cactus Dahlias, and about these the interest of many of the Dahlia growers centre. Shown in bunches of six blooms the brilliant Cactus varieties made an important display, and they were greatly admired. Messrs. J. Burrell and Co., Howe End Nurseries, Cambridge, were first with a really splendid collection, including some fine new varieties of their own raising. The varieties were Regulus, Miranda, Mary Service, Keynes' White, Arachne, Cinderella, Starfish, Island Queen, soft lilac, a charming tint; Lady Penzance, Fantasy, Britannia, Night, Charles Woodbridge, very brilliant; Harmony, Fusilier, Cycle, and Lucius, orange-salmon, very fine and distinct. Messrs. Keynes and Co. were a remarkably good second, and Messrs. J. Cheal and Sons, Crawley, a good third. In the class for twelve bunches, Mr. S. Mortimer was first, Mr. Seale was second, and Mr. G. Humphries third.

A new class was introduced to the schedule for twenty-four distinct blooms of Cactus Dahlias, shown on boards in the same way as the show Dahlias. This innovation appeared to find general acceptance, as it enables some to exhibit who cannot make up bunches of six blooms. Nine exhibitors competed, the first prize going to Messrs. J. Burrell and Co., two-thirds of whose blooms were highly promising seedlings of their own raising; Messrs. Keynes and Co. were second, and Messrs. J. Cheal and Sons third. Those were the most effective stands which had foliage shown with the blooms, and it would perhaps be well if this was made compulsory on the part of the exhibitors. Stands of twenty-four varieties of pompon Dahlias in bunches of ten blooms made another very attractive feature, and it was gratifying to see that the exhibitors preferred the small, compact, even flowers instead of those of larger size. The first prize went to Mr. Seale, though the stands shown by Messrs. J. Cheal and Sons and Mr. C. Turner, which were placed second and third, were so remarkably close in point of quality, that the judges had to resort to pointing in giving their awards. Messrs. J. Burrell and Co. had the best twelve bunches, with varieties almost entirely the same as those named, and Mr. George Humphries was second.

The single Dahlias also were represented by two fine collections of twenty-four bunches, ten blooms in a bunch, and it was a very near thing between Messrs. Cheal and Seale, the awards going in the order of their names.

The amateurs' classes for show and fancy Dahlias followed. The best twenty-four blooms

came from Mr. R. Burgin, St. Neots, Hunte, a working man, who produces fine flowers. His leading blooms were Gloire de Lyon, H. Keith, R. T. Rawlings, George Rawlings, J. T. West, Prince of Denmark, Frank Pearce, Maud Fellowes, Prince Bismarck, Queen of the Belgians, Vice President, Mrs. Langtry, A. Rawlings, Colonel, W. Powell, &c. Second, Mr. Thos. Anstiss, Brill, also with some remarkably good flowers. Third, Mr. Thos. Hobbs, Bristol. With eighteen blooms, Mr. R. E. West, Salisbury, took the first prize, and Mr. W. Mist, Ightham, second, both staging very good flowers. The best twelve blooms came from Mr. S. Cooper, Chippenham. Mr. E. Jefferies, Langley Burrell, was a close second. Mr. C. F. Keep, Streatham, was first with six blooms. They consisted of Mrs. W. Slack, Victor, Duchess of York, R. T. Rawlings, Miss Cannell, and Lord Chelmsford. Mr. E. West, Jun., Henley-on-Thames, was second, and Mr. H. A. Needs, Horsell, Woking, third. Mr. Burgin had the best twelve fancy Dahlias, and it contained excellent blooms of Frank Pearce, Duchess of Albany, Lottie Eckford, Mrs. Saunders, Rev. J. B. M. Camm, Dazzler, and T. W. Girdlestone. Mr. S. Cooper was second, and Mr. T. Anstiss third. Mr. R. E. West was first with six blooms, and Mr. E. Jefferies second.

Cactus Dahlias were numerous shown by amateurs. The best twelve bunches, six blooms in each, were staged by Mr. Robert Keeble, Twyford, Berks, who had in excellent character Harry Stredwick, Cycle, Mrs. A. Beck, Harmony, J. E. Frewer, Mary Service, Starfish, &c.; second, Mr. J. Hudson, The Gardens, Gunnersbury House, Acton, who was a close second, having Mary Service, Arachne, Fusilier, Starfish, Island Queen, Fantasy, Regulus, &c. Mr. W. Mist, Ightham, was third. With six varieties, three blooms of each, Mr. H. A. Needs, Horsell, Woking, came first; second, Mr. R. E. West; third, Mr. E. Mawley, Berkhamsted. Then followed a class for nine varieties, three trusses of each, Mr. H. A. Needs again taking the first prize; Mr. Keeble second, also with good bunches; and Mr. J. Hudson was third. With six bunches of pompon Dahlias, ten blooms in a bunch, Mr. Geo. Wyatt, Waldegrave Park, Twickenham, was first. Mr. J. Hudson was second. His best were Nerissa, Tommy Keith, and Orpheus; third, Mr. W. C. Pagram, Weybridge. With six varieties, six blooms of each, Mr. R. E. West was first, Mr. C. F. Wood second, and Mr. R. Burgin third. Single Dahlias were also well shown by amateurs. The best six varieties, six blooms of each, came from Mr. T. Girdlestone, who had refined blooms. Mr. J. Hudson was second, and Mr. W. Mist third. With six varieties, six blooms of each, Mr. E. Mawley was first.

Floral decorations in Dahlias were represented by epergnes, Mr. J. Hudson taking the first prize, in which yellow, white, and orange Dahlias were charmingly mingled with appropriate foliage. Mr. E. Mawley was second, and Mr. Pagram third. Mr. E. Mawley had the best vase of twelve Dahlia blooms, using Cactus Starfish on long stems with appropriate foliage. Mr. J. F. Hudson came second; he had Starfish and Keynes' White. Mr. R. Edwards, Sevenoaks, was third. Only one vase competed for the special prizes offered by Messrs. Dobbie and Co. for three vases of the white decorative Dahlia Miss Webster, that from Mr. R. Edwards, Sevenoaks, which was awarded the first prize.

Two classes were provided for amateurs who had never won a prize at a previous exhibition of the society, one for six show and fancy varieties, in which Mr. W. Middleton, Towcester, was first, and Mr. J. W. Jones, Woking, second. The same exhibitors were first and second with six varieties of Cactus Dahlias, three blooms of each. Then followed certain open classes; one was for a bouquet. Mr. W. Treseder, Cardiff, was first, and Mr. M. V. Seale second. Next came one of the most interesting and attractive classes in the schedule, namely, for eighteen varieties of fancy Dahlias, in which only striped, tipped, or edged flowers were admitted. Mr.

T. W. Girdlestone was placed first with a beautiful lot, almost entirely or quite of his own raising, and the names only are given now, as it is proposed to deal with them separately. The varieties were Tominy, Violet Forbes, Ganlem, Nan, Tommy Tucker, Bal Masque, Princess Petula, Creole, Splosh, Ruy Blas, Aladdin, Louisette, Suzette, Folly, Trilby, Jeannette, Jack Sheppard, and Phyllis. Never before probably was a better stand of single Dahlias staged for exhibition. Mr. M. Seale was second, also with some charming blooms, particularly Tommy Harper, Emmie, Paragon Improved, Folly, Dorothy Seale, Guliema, Duchess of Albany, and Phyllis. Then came nine classes for six blooms of Dahlias of a particular colour or type. The best six dark came from Mr. J. Walker, who had the Rev. J. Godday. Mr. G. Humphries took the second, and Mr. S. Mortimer the third prize with Arthur Rawlings. Mr. R. E. West was first with six blooms of any light Dahlia, having Mrs. Gladstone. Mr. Tranter came second with the same, and Mr. J. Walker third with Mrs. Morgan. The best six blooms of a yellow Dahlia were very fine, John Hickling, shown by Mr. J. Walker. Mr. Mortimer was second and Mr. Seale third, both with R. T. Rawlings. The best red was James Stephen, from Mr. Mortimer; Mr. West was second, and Mr. Seale third, both with Duke of Fife. The best white was John Walker, from Mr. Mortimer; Mr. Walker was second with the same, and Mr. West third with the same. The only bloom of any other colour was Duchess of York, shown by Mr. Seale. The best tipped Dahlia was fancy Comedian, from Mr. J. Walker; Mr. Seale was second with Mrs. Saunders, and Messrs. Frewer and Co. third with Peacock. The best striped Dahlia was fancy Rebecca, from Mr. J. Walker; Mr. T. Antiss was second with Emin Pasha, and Mr. Mortimer third with Duchess of Albany. The best edged Dahlia was Miss Cannell, also from Mr. Walker; Mr. S. Mortimer was second with Rosamond, and Mr. Seale third with J. T. West. Mr. F. E. Fellowes' silver cup for the best bloom in the show was awarded to Mr. John Walker, for a grand bloom of William Powell, yellow self. The two special prizes, presented by Mr. Thomas Hobbs, Bristol, for the best show and the best fancy Dahlias exhibited by amateurs, were both won by Mr. R. Burgin, the first with a fine bloom of Arthur Rawlings, and the second with Frank Pearce. Some notes on the new seedlings exhibited shall be given next week.

Some miscellaneous contributions helped the general display. Messrs. Carter, Page and Co., London Wall, had a representative collection of cut Dahlias of an imposing character; so had Mr. T. S. Ware, of Tottenham, who filled a very large table. Mr. J. R. Box, Croyton, had a bank of blooms of his fine strain of Begonias, and Messrs. Dobbie and Co., Orpington and Rothesay, a large and fine collection of many kinds of cut flowers.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 6.

The show in the Drill Hall on Tuesday last was interesting, and flowers of various kinds were represented.

Orchid Committee.

A first-class certificate was awarded for—

PERISTERIA ELATA.—This well-known Orchid had never previously been certificated. Its ivory white flowers with the representation of a dove are too well known to need description here. The plant sent from Her Majesty The Queen's gardens, Frogmore, was a remarkable example of good culture. The plant carried eight spikes of flowers nearly 5 feet in length. The foliage also was correspondingly large and robust. A silver Flora medal was awarded also for culture.

Awards of merit were adjudged to the following:—

CATTLEYA ELLA (C. bicolor × C. Warscewiczii).—This is a distinct and pretty hybrid, the sepals

and petals being beautifully formed and fine in substance. The colour is a distinct rose, suffused with a shade of amber, the quaint elongated lip wholly deep crimson-purple except the margin, which is light rose and beautifully fringed. It is a most desirable variety, raised by the Messrs. J. Veitch and Sons, by whom it was exhibited, in the Langley Nurseries.

DENDROBIUM SANGUINEUM.—This is a distinct and lovely species, having growth 18 inches in length; the sepals and petals rich scarlet, shaded with purple and white at the base, each about 1½ inches in length; the lip rich purple in front, the side lobes white, slightly suffused with purple. This came from the collection of Sir T. Lawrence, Bart., Burford, Dorking.

Messrs. J. Veitch and Sons sent a large and choice group consisting principally of hybrid Cattleyas, the most prominent being *Lælio-Cattleya callistoglossa ignescens* (L. purpurata × C. Warscewiczii), the large, well-balanced sepals and petals delicate rose, veined with a darker shade of rose, the large lip rich velvety crimson except the throat, where the influence of C. Warscewiczii is discerned by the yellow side eyes and lines through the throat; L.-C. Nysa (Warscewiczii × crispata), the sepals and petals pale rose, lip crimson-purple, margined with white, the side lobes white, shading to yellow, with some purple at the base; L.-C. Eudora (C. Mendeli × L. purpurata), with extra large flowers. *Cattleya Euphrasia langleyensis* (superba × Warscewiczii).

—This is one of the highest coloured and most striking hybrids that have been raised, the sepals and petals deep rose-purple, the lip deep crimson-purple, with a darker shade in front of the disc of the throat, the interior of the side lobes white, shading to yellow at the base, the exterior rose. Fine forms of C. Loddigesii, C. Warscewiczii, and C. Leopoldi were also included. *Epidendrum radiante*-Stamfordianum has the intermediate characteristics of the species indicated in the name. *Disa Clio*, which was described in our last report, was also included. A finely flowered plant of *Dendrobium endocharis*, with its white and brown highly perfumed flowers, was very attractive. The most prominent among the hybrid *Cypripediums* were fine forms of C. Mylo, C. *ananthum* superbum, and the rare and beautiful *Fairrieanum* hybrid C. H. Ballantine. *Cycnoches chlorochilon* was also well represented. A fine plant of *Renanthera matutina* and a pretty form of *Masdevallia Imogene* (Schlimi × Veitchii) was also included. A silver Flora medal was awarded.

Mr. E. G. Cohen, 4, Hall Road, St. John's Wood, sent *Lælio-Cattleya elegans* (Cohen's var.). This is a remarkably fine variety, the sepals pale greenish yellow, with a slight purple suffusion and some brown spottings; the petals deep rose, suffused with a darker shade; the lip very broad, rich crimson-purple, shading to yellow on the side lobes. The plant bore a raceme of seven flowers. Sir F. G. Freake, Bt., Warfleet House, Dartmouth, sent *Dendrobium Phalenopsis* (Warfleet variety); this is a pretty form. The sepals and petals pure white, the lip white, with numerous purple lines on the front lobe. The plant carried a raceme of five flowers. Mr. C. L. N. Ingram, Godalming, sent *Lælio-Cattleya splendens*, the sepals and petals pale rose, the front lobe of the lip rich velvety crimson. Mr. O. O. Wrigley, Bridge Hall, Bury, sent *Cypripedium* Mrs. F. L. Ames (C. *tonsum* × C. *Fairrieanum*), a pretty form in the way of C. *vexillarium*, but with greener and larger flowers. Messrs. Hugh Low and Co. sent *Cypripedium palananense*; this is an imported hybrid, resembling C. *Kimballiana*, and supposed to be a natural hybrid between C. *Dayanum* and C. *Rothschildianum*, the dorsal sepal pale green, lined with broad dark brown lines; the petals green, suffused with brown, and line spotted with dark brown; the lip brown, shaded and marbled with pale green. Messrs. F. Sander and Co. had *Cypripedium* William Trelease (Rothschildianum × Parishii), the broad dorsal sepal pale green, lined with deep purple lines; the petals pale green, suffused with rose, spotted with dark brown spots; the lip purple,

shaded with green—it has the intermediate characters of both parents—and C. Mrs. Edgar Cohen (*callosum* × *niveum*); this is a pretty hybrid in way of C. *Tautzianum*, but with smaller flowers. A nice plant of *Dendrobium densiflorum* Schrederæ and a light form of *Cattleya Warscewiczii* were also included.

Floral Committee.

A first-class certificate was awarded to

ACER NEGUNDO ELEGANS.—A handsome form, in which the strong silvery and creamy variegation is well supported by ample greenery, sufficient, indeed, to render it not only useful, but attractive over a long season. The plant is also vigorous and free in growth. From Messrs. Paul and Son, Cheshunt.

Each of the following received an award of merit:—

DRACENA DUCHESS OF YORK.—Elegant and graceful, just the kind so well suited by its growth and general bearing for use as a table plant; the leaves are only three-quarters of an inch wide and a foot or more long, gracefully recurving to the pot and marked with cream and red along the leaf margins, the latter being the mature tint. From Messrs. James Veitch and Sons, Chelsea.

DAHLIA MRS. PINDLEY CAMPBELL.—A good Cactus variety, with a striking shade of vermilion-orange, a novel and distinct shade. From Messrs. Cheal and Sons, Crawley.

DAHLIA LORELY.—This is likewise a Cactus kind of a very distinct type, the outer florets being of a warm rosy cerise and the centre white and well defined. From Messrs. J. Cheal and Sons.

DAHLIA COLUMBINE.—A prettily formed single variety of a rose-peach and orange, a compact flower of medium size. From Mr. T. W. Girdlestone, Sunningdale, Berks.

DAHLIA PUCK.—Also a single kind, identical in size and form with the last, but of an orange-fawn shade and a crimson ring at base of florets. From Mr. T. W. Girdlestone, Sunningdale.

DAHLIA LADY ROGERS.—A pompon variety, nicely formed, very compact and of purest white. From Sir Robert Hargreave Rogers, Bexley, Kent (gardener, Mr. Leggett).

DAHLIA MAGNIFICENT.—A very handsome Cactus kind, self coloured, and of a uniform buff-fawn tone throughout. From Mr. James Stredwick, Silver Hill Park, St. Leonards.

LOBELIA RIVOIREI.—One of the herbaceous kinds, with rather large flowers on long spikes, the blossoms of a very soft delicate pinkish hue. It is of the green-leaved section, as distinct from those with crimson leafage. From Sir Trevor Lawrence, Dorking (gardener, Mr. Bain).

HELENIUM AUTUMNALE SUPERBUM.—The variety here named is fully 6 feet high, with much-branched heads of blossoms, the latter very freely produced. The example exhibited was scarcely in normal condition, as indicated in parts of the stem and also some flowers; the latter are small, but abundant. From Sir Trevor Lawrence, Burford Lodge, Dorking (gardener, Mr. Bain).

From Crawley Messrs. J. Cheal and Sons brought a very fine collection of trees and shrubs in a cut state, that gave an excellent idea of the well-nigh endless variety of useful and beautiful things for the further ornamentation of the garden. Consequent on the great heat on Tuesday last it might naturally have been expected that such things would have presented a sorry appearance, yet the examples generally were in capital condition and well represented its kind. Doubtless some preparation had materially assisted to this very desirable end. Some of the most notable things were *Aralia spinosa*, *Ceanothus Gloire de Versailles*, *Veronica Purple Queen*, *Hedysarum multijugum* with purple pea-shaped flowers, *Coronilla Emerus*, a yellow-flowered species; *Diplopappus chrysophyllus*, a very distinct bush, with stems of a golden hue; a variety of *Acer*, among which was *A. Negundo aurea*, a rather good golden form; *Acacia neo-mexicana* with rose blossoms, the golden *Kerria*, elegant flowering branches of *Tamarix parviflora*, *Amorpha canescens* with its pretty violet-blue flowers

tipped with the protruding golden anthers, the richly coloured *Colutea crocea*, Japanese Wineberry, several *Hypericums*, *Spiraea callosa*, *Quercus* and *Ulmus* in variety, making up a most interesting assortment of bright and useful subjects. Adjoining these things the Messrs. Cheal set up in their well-known form a really fine lot of Cactus, single, and pompon Dahlias in all the leading kinds. A few of the best Cactus noted were Lady Penzance, fine yellow; Fantasy, red-dish amber; Gloriosa, scarlet-crimson; Harry Stredwick, maroon; Miss Webster, white; Night, blackish maroon; Mrs. Scrase-Dickins, fine yellow, &c. Among the singles, *Alba perfecta*, Amos Perry, Duchess of Fife, The Bride, Lowfield Beauty (a lovely terra-cotta), Jeannette, May Sharpe (orange and buff) were all fine—a similar remark applying to an extensive assortment of pompons. The flowers throughout were of a high standard of excellence, and for the exceptionally dry season much above the average, thus reflecting not only good culture, but untiring attention to details. The whole of these extensive exhibits occupied an entire table, and well merited the silver-gilt Banksian awarded.

Mr. H. B. May, Dyson's Lane, Edmonton, set up a mixed group of Palms, Ferns, Carnations, and Bouvardias. *Salvia splendens grandiflora* is a most brilliant and effective subject at any time, and was staged in many well-grown examples. The Carnations were of the Tree section, and for the small pots in which the plants were grown carried nice heads of bloom, the varieties being the old and still very beautiful Miss Joliffe, Mrs. Leopold de Rothschild—both pink kinds—Countess of Warwick, a fine claret-crimson colour, the petal good and the calyx perfect—this is doubtless the finest perpetual of this shade of colour, and a good tree habit; Primrose Day, a good yellow, and the well-known Winter Cheer. *Bouvardia Humboldtii grandiflora*, in capital plants about 2 feet high and well flowered, *B. jasminoides*, *B. Alfred Neuner*, all nicely flowered, while the free-flowered *Fuchsia Ballet Girl* was bedecked with its handsome flowers at one end. Another rarely seen plant was shown in this group in *Swainsonia galegifolia alba*, an old pea-flowered plant of great beauty and usefulness. The elegant habit and pure white flowers are very pretty; it is a capital plant for bedding out in summer in pots. This interesting assortment was grouped on the floor, and received a silver Banksian medal. A group of Cannas, *Streptocarpus*, and Ferns was set up by Mr. Arthur Pentney, gardener to Mr. A. J. Howard, Worton Hall, Isleworth, the Cannas being all in a cut state and in great variety, the *Streptocarpus* being also well flowered (silver Banksian medal).

Hybrid Water Lilies were staged by the Messrs. James Veitch and Sons, Chelsea. They included some of the most beautiful of these lovely things at present in cultivation. Apart from the old white Water Lily (*Nymphaea alba*) were the newer *N. Laydekeri* lilacea, *N. L. fulgens*, a richly-coloured flower, quite an acquisition; *N. L. rosea*, *N. Marliacea carnea*, *N. M. Chromatella*, a useful and beautiful kind; *N. Ellisiana*, *N. odorata rosea*, *N. o. sulphurea*, *N. pygmaea helveola*, &c., a very beautiful and charming lot of these exquisite flowers. The whole of these, we once again endeavour to impress our readers, are as perfectly hardy as the old white Water Lily so well known among British rivers and streamlets. The same firm set up several baskets of *Hibiscus*, *H. totus albus*, *H. celestis*, very beautiful, and *H. monstrosus*, white with crimson base. Gladioli of the Childs section were also staged in considerable numbers, some of the best being Torchlight, Burlington, salmon self, and Nakomis, soft salmon-pink, and the pure white *G. gandavensis* White Lady, a flower of the purest white, though at present wanting in length of spike. Many beautiful annuals were also staged by the Chelsea firm, and among them Sweet Sultans in variety, *Dianthus Heddeiwigi*, Asters, Scabious, *Schizanthus* in variety, *Cosmos bipinnatus*, beautiful rose-lilac blossoms, and

many charming *Salpiglossis*, among these a beautiful chrome and orange-yellow, which is very fine (silver Banksian medal). Messrs. J. Hill and Sons, Lower Edmonton, had a fine group of greenhouse and stove Ferns in variety, including the new *Asplenium Hilli*, a most elegant plant with finely-cut leaves; *Pteris tricolor*, a well-marked Fern; *P. Victoria*, a silver variegated kind; *Cheilanthes elegans*, *C. birta Ellisiana*, *Asplenium caudatum*, a capital piece with long, drooping, slightly arching fronds; *Lastrea lepida*, very elegant; *Pteris tremula Smithi*, a handsome example; *Adiantum Mariessii*, *A. fragrantissimum*, *A. rhodophyllum*, *Gymnogramma Mayi*, a good silver Fern; and *Davallia Tyermanni* being among the most worthy on this occasion (silver Flora medal). Mr. W. Rumsey, of Waltham Cross, sent a splendid lot of his new pink Rose Mrs. Rumsey, which has been so frequently seen in such excellent condition this year. The repeated exhibits mark it as a good perpetual, the blooms in question being of excellent size and suffering in no wise from the great heat of the past weeks (bronze Banksian medal). Mr. Sander, St. Albans, showed plants of the new *Acalypha*, *A. Sanderae*, and *A. Godseffiana*, both now well known; also a goodly batch of *Dracena Sanderae* and fine flowering examples of *Hæmanthus multiflorus superbus* with scarlet heads. Sir Trevor Lawrence, Dorking (gardener, Mr. Bain), staged a nice lot of spikes of the hybrid *Pentstemons* from seed sown on January 29 of the present year, the spikes in every way equal, and in some superior, to those produced from cuttings of last year; some spikes of *Lobelia Carmine Gem*, a lovely kind; the blue *Lobelia Gerardi*, which appears to come very near *L. syphilitica* in form; *L. Crimson Gem*, and a very fine seedling of an intense maroon-crimson. Another useful though variable plant was *Rudbeckia bicolor superba*, the colours varying from yellow and orange with crimson base to others almost wholly crimson. It should prove a good bedding plant by its freedom of flowering. Some spikes of *Belladonna Lilies* were sent by Mrs. Raven Hill, Woodside, Windsor Forest (gardener, Mr. John Wells), and from the same source a prettily marked *Acalypha* called Novelty—it is a dwarf kind marbled with cream and green—the plants flowering at about 6 inches above the pots.

Fruit Committee.

A first-class certificate was given to—

MELON BRITISH QUEEN.—This is the result of a cross between Hero of Lockinge and Royal Ascot. The fruits are oval in shape, skin pale yellow and very finely netted; flesh white, deep, and melting, and very fine flavour. From Mr. Owen Thomas, The Royal Gardens, Frogmore.

Messrs. J. Veitch and Son, staged a very good collection of fruit, consisting of Apples, Pears, Plums, Peaches, Figs gathered, also shown in fruiting condition in pots, and long fruiting sprays of Red and Yellow Siberian and John Downie Crabs. The most noticeable among the dessert varieties were Devonshire Queen, remarkable for its deep mahogany colour and firm appearance, Lady Sudeley, Benoist, Duchess' Favourite, Kerry Pippin, Worcester Pearmain, and Yellow Ingestre. The cooking kinds were well represented, the best dishes being Stirling Castle, Warner's King, The Queen (a large handsome variety), Lord Suffield, Potts' Seedling, Queen Caroline, and Dutch Codlin. Peaches, two good dishes of Sea Eagle and Princess of Wales. A fine dish of Dr. Jules Guyot Pear, also Clapp's Favourite, Beurré d'Amanlis, Fondante d'Automne, and Mme. Treyve. Figs Negro Largo, White Marseilles, and Bourjassotte Grise. Victoria and Denison's Superb Plums completed the exhibit, for which a silver Knightian medal was awarded. Messrs. Rivers, of Sawbridgeworth, again showed very fine fruits, orchard grown, of Peasgood's Nonsuch Apple. They also staged Plum trees in pots, carrying heavy crops of fruit. The chief varieties were Burbank, a large roundish Plum of good appearance, and which will be in great demand when better known, being a remarkably free cropper, and Archduke, a fine oval purple Plum,

good for dessert or kitchen. They also showed bunches of Gradiska and Buckland Sweetwater Grapes and a large white-berried variety named Centennial, with a very good flavour. A silver Knightian medal was awarded this collection. Forty dishes of Apples, both culinary and dessert, were staged by Messrs. Spooner and Sons, Hounslow Nurseries, Middlesex. A bronze Banksian medal was awarded. A cultural commendation was awarded to Mr. J. C. O'Hagan, River Holme, Hampton Court, for a remarkably fine dish of Exquisite Peach (River Holme variety), the fruits large, of an apricot-yellow colour, slightly marked with crimson where exposed to the sun; also a good dish of Rivers' Orange Nectarine (gardener, Mr. C. Last). A cultural commendation was awarded Mr. T. Robinson, Hollingbourne, Kent, for a box of Peaches. Cultural commendations were also given to Lord Foley, Ruxley Lodge, Esher (gardener, Mr. J. Miller), for Peach Princess of Wales; to Mr. H. Faure Walker for a very fine dish of Morello Cherries, this exhibitor also showing Tomatoes; to Earl of Galloway, Galloway House, Garliestown (gardener, J. Day), with a dish of Early Grosse Mignonne Peach and Pitmaston Orange Nectarine, these being grown on a south wall without protection. Messrs. Laxton, of Bedford, showed fruiting sprays of the new perpetual Strawberry St. Joseph, also other varieties. Mr. W. Batchelor, Uxbridge, exhibited fruits of seedling alpine Strawberries, the flavour somewhat poor.

NATIONAL CHRYSANTHEMUM SOCIETY.

SEPTEMBER 6, 7, AND 8.

THE exhibition under the auspices of the above society, and which opened on Tuesday last, was a welcome feature in the floral displays of the present season, and was clearly indicative of the trying period through which the different subjects have been passing.

CHRYSANTHEMUMS.

These were very poorly represented, there being only one competitor in the class for twelve bunches distinct, twelve blooms only to form a bunch, and this came from Mr. Eric F. Such, The Nurseries, Maidenhead, who was awarded first prize. Mr. Such was again the only competitor in the class for six bunches, six sprays to form a bunch, and these were only indifferently shown. The class in which the best quality was displayed was one in which twelve blooms of Mme. C. Desgrange or any one of its varieties were asked for. In this class there were two competitors, those from Mr. W. Perrin, gardener to Mr. C. W. Richardson, Sawbridgeworth, securing premier honours. These were handsome blooms of large size with long, broad, and drooping petals of good substance, and fairly even as a whole. Second prize was secured by Mr. Chas. Crook, gardener to the Dowager Lady Hindlip, Hadsor House, Droitwich. Mr. Such was again placed first in a class for twelve blooms of any early-flowering variety other than Mme. C. Desgrange and its sports, showing on this occasion twelve fairly good blooms of Lady Fitzwygram, which seemed somewhat lost in the big brown jars in which they were arranged. For the pompon class there were three entries, and Miss R. Debenham, St. Peter's, St. Albans, was a good first with nice blossoms of Alice Butcher (reddish orange), Mme. Gabus (very pretty), California (good), Mme. Jolivat, Piercy's Seedling, Mrs. Cullingford, Strathmeath (a doubtful pompon), and Precocité and others. Mr. Such was placed second with blossoms of very poor quality. There was one competitor in the class for six blooms shown in a vase, and a very large epergne in the amateur division secured first prize for a lady exhibitor. The prettiest display in the Chrysanthemum competitive classes was made by Mr. Norman Davis, The Vineries, Framfield, near Uckfield, Sussex, who had a nice collection of cut flowers of Chrysanthemums of many types, and shown on a table 6 feet by 3 feet.

GLADIOLI.

Excellent exhibits of these flowers were staged. The best lot came from Messrs. J. Burrell and Co., Cambridge, and embraced many of the leading sorts and excellent seedlings. Specially good were Atlas, Althea, Grand Rouge (rich colour), Baroness Burdett Coutts (large chaste flowers), Fiametta (very fine), Comedy, Rosalind, Iona (rich velvety red colour), Casilda, Surine, Conquerant, Formosa, Lauretta (handsome spike, very chaste), Eunice, Dora Craven, Carnation, and Cameleon. Messrs. Harkness and Son, nurserymen, Bedale and Hitchin, showed a lesser number, their exhibit containing some twelve dozen spikes, of which the best were Enchantress, M. Chevreul, Mme. P. Palmer, Grand Rouge (a most constant sort), Formosa, and Mr. D. B. Crane (a chaste flower). This display secured second prize.

DAHLIAS.

SHOW AND FANCY.—These were well represented, although there have been occasions when the quality has been better. The principal class was one for forty-eight blooms, not less than thirty-six varieties, and in this there were five competitors. Leading honours were given to Mr. John Walker, High Street, Thame, who had a beautifully even and nicely finished lot of flowers. The most striking examples in his stands were Rev. J. Godday, Perfection, Daniel Cornish (very good), William Keith, Duke of Fife (very fine), Mrs. C. Noyes (a pretty light fawn), John Downie (very fine), Duchess of Albany (fine striped sort), T. J. Saltmarsh (yellow, neatly tipped chestnut), William Powell (splendid form, yellow), Warrior (one of the best scarlets), and Hercules (self). Second prize fell to Mr. Chas. Turner, Royal Nurseries, Slough, with smaller flowers, but a beautiful even lot of blossoms, neatly finished. There were five entries for thirty-six blooms, distinct. In this case also Mr. Walker secured premier honours, showing a very handsome lot of flowers, with neat finish. Second position was well merited by Mr. S. Mortimer, Farnham, Surrey, with good flowers, but lacking the finish identified with the leading stand. For twenty-four blooms, distinct, there were only two competitors, first prize being allocated to Mr. G. Humphries, Kington Langley, Chippenham, with a nice even and bright lot of flowers, though lacking the size seen in the other leading classes. Notable individual blooms were Daniel Cornish, Earl of Ravensworth (light lilac, very pretty), Mrs. Glasscock, Vice-President, Arthur Rawlings, Dr. Keynes (very fine form and colour, buff), James Stephen (bright orange-scarlet), John Walker, James Vick and T. W. Girdlestone. To Mr. J. R. Tranter, Henley-on-Thames, fell second prize with a rougher and less even lot of flowers; Purple Prince, William Rawlings, James Cocker and John Standish, however, were good. Four stands were entered in the class for twelve blooms, distinct, Mr. Tranter standing out first with an even, though rather small, collection of blossoms. Mr. G. Humphries was a good second. In the amateurs' and gardeners' classes for twenty-four blooms, distinct, Mr. T. Antiss, Brill, Bucks, was first with a good lot, having Vice-President, Harry Keith, Mrs. Morgan, Dr. Keynes, James Cocker, Imperial, Rev. J. B. M. Camm and John Walker (a good white self) in good condition. For eighteen blooms, distinct, there were three competitors, Mr. Antiss again securing premier honours. Mr. R. Burgin, St. Neots, Hunts, received the second prize. There were four entries in the class for twelve blooms, distinct, Mr. S. Cooper, Langley Burrell, Chippenham, being first with a large and even stand of flowers, possessing good form and high colour. Mr. E. Jefferies, Langley Burrell, Chippenham, was a fairly good second, and in neither case in this class were the blossoms named. In the minor class for six blooms, distinct, Mr. C. F. Keep, 59, Sunny Hill Road, Streatham, was first, followed by Mr. S. Cooper, with neat flowers.

POMPONS.—These classes are always very interesting and pretty, the one for twenty-four bunches, distinct, having three competitors. In

this case Mr. Charles Turner was a good first with a charming display. The best were Adrienne (handsome), Bacchus, Hypatia (bright terra-cotta), Fabio, Tommy Keith, G. Brinckman, Mabel (lovely lilac), Douglas (one of the best deep maroon flowers), Isabel, Lady Blanche, Mars, Cecil, Marion and Iris. Mr. F. W. Seale, Sevenoaks, was a good second. In the twelve bunches Messrs. J. Burrell and Co. were a good first out of five entries, E. F. Jungker, Eurydice, Bacchus, Mary Kirk, Geo. Brinckman (very fine), Douglas, Phoebe, Isabel and Arthur West being a very handsome and even lot of flowers with a beautiful finish. Mr. G. Humphries was placed second, Captain Boyton and Ceres being noticeable in his stand for their good quality. For six bunches, open to amateurs and gardeners, there were four entries, Mr. James Hudson, Gunnersbury House, Acton, having a pretty lot of flowers. Mr. Geo. Wyatt, gardener to General Hilditch, Waldegrave Park, Twickenham, was second. Taken as a whole the pompons were exceedingly fine and interesting.

CACTUS.—These were a grand lot, one or two stands being remarkable for their exquisite form and colour. The leading class was one for eighteen bunches, six blooms in each, distinct, in which Messrs. J. Burrell and Co. easily secured first prize. The varieties deserving special mention are Mrs. Peart, Starfish (grand), Casilda, Britannia, Keynes' White (very beautiful white), Mary (never seen better), Esmeralda (orange-scarlet seedling), Service, Arachne, Lucine (fine form), Sirius, and Lady Penzance (very fine). Messrs. Keynes, Williams and Co., Salisbury, were the only other competitors, and were placed second. For twelve bunches, distinct, there was an imposing array of six exhibits, Mr. S. Mortimer leading with Starfish, Britannia, Mary, Service (grand colour), Fasilier, Keynes' White, Night, and Chas. Woodbridge. Second prize fell to Mr. H. Shoemith, The Nurseries, Woking, Surrey, with an interesting exhibit. There were four competitors in the sixes, Mr. James Hudson being a good first with pretty blossoms; Mr. G. Wyatt was second with a pleasing stand.

MISCELLANEOUS EXHIBITS.

These were varied in their character, and assisted very materially to add attractiveness to the show. A small gold medal deservedly went to Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., for a beautiful group of Chrysanthemums, Begonias, Caladiums, and fine-foliaged plants, with a fine background of lovely fresh green Bamboos. A new early Japanese Chrysanthemum named May Manser was much admired in this group, being a chaste white flower with a primrose centre, and which received a first-class certificate. A similar award was made to Messrs. Thos. Ware and Son for a very large and representative group of cut Dahlias. A circular group of Chrysanthemums exhibited by Mr. J. H. Witty, Nunhead Cemetery, was credited with a silver-gilt medal, and included many of the best known early sorts. Messrs. H. Cannell and Sons, Swanley, staged thirty bunches of early Chrysanthemums in twenty varieties, and secured a silver medal, a like distinction falling to Mr. F. W. Seale for a grand table of show, fancy, Cactus, and pompon Dahlias, a background being made of the smaller flowers with Asparagus foliage. A lovely lot of Tea and garden Roses came from Mr. John Mattock, New Headington, Oxford, who had beautiful bunches of the best and most popular sorts. This was a welcome addition to the show, and secured a silver-gilt medal. A small silver medal was awarded to Mr. W. Wells, Redhill, for a table of early Chrysanthemums, and these were in great variety. Mr. J. K. Chard, Stoke Newington, again exhibited specimens of table decorations, using Chrysanthemums, Montbretias, and a pleasing variety of foliage, and secured a large silver medal. Mr. John Green, Norfolk Nurseries, Dereham, made a grand display of Cactus and pompon Dahlias, remarkable for their colour and good form, securing a silver

medal. From Mr. F. G. Foster, Brockhampton Nurseries, Havant, came a large collection of Sweet Peas, which secured a small silver medal. Mr. J. Williams, Oxford Road, Ealing, secured a bronze medal for table decorations.

FLORAL COMMITTEE.

The committee met on the first day of the show, Mr. Thomas Bevan being in the chair. First-class certificates were awarded to:—

CHRYSANTHEMUM LOUIS LEMAIRE.—This is a beautiful bronzy red, on a yellow ground, sport from M. G. Grunerwald, and will be a welcome addition to sorts for hardy border culture. Like the parent variety, it is very free and dwarf. From Mr. W. Wells, Redhill.

CHRYSANTHEMUM MAY MANSER.—This is the best addition to the early Japanese sorts for pot culture introduced for a long time. The colour is a pretty ivory-white, with pale primrose centre, with long twisted and curling florets of good substance. From a natural break the flowers are now at their best. Height about 3½ feet to 4 feet. From Mr. H. J. Jones, Ryecroft Nursery, Lewisham.

A white sport from Blushing Bride pompon Chrysanthemum looked promising, and a request was made to see it again, and a bright crimson-scarlet border Carnation named Jeddah was commended. The latter came from Mr. J. Tigwell, Harrow View, Greenford.

Horticultural Exhibition at St. Petersburg.—Mr. James H. Veitch has been appointed Commissioner for Great Britain and Ireland for the third International Exhibition of Horticulture organised by the Russian Imperial Horticultural Society on the occasion of the fortieth anniversary to be held at St. Petersburg in May, 1899. Schedules may be obtained from him on application at the Royal Exotic Nursery, Chelsea.

The weather in West Herts.—The past week proved remarkably warm for the time of year. On four days the temperature in shade rose above 80°, and on the hottest day, the 7th, reached 85°, which is the highest reading registered here in September during the thirteen years over which my weather records extend. On each of these hot days the highest temperature was registered at about 3 o'clock in the afternoon. The night preceding the 6th inst. was also exceptionally warm. On one day the temperature of the soil at 2 feet deep rose to 66° and at 1 foot deep to 71°, both of which readings are considerably higher than any hitherto recorded here in September. No rain fell during the week, and no rain water at all has come through either percolation gauge for five days. The record of sunshine has on several days been singularly good for an autumn month.—E. M., *Berkhamsted*.

Diseased Runner Beans (Lyndhurst).—Judging by the strange appearance of the small Runner Beans sent, we can but assume that some local cause has operated to render them so yellow and withered. It is altogether an unusual appearance. Closely examined, the small pods, both green and yellow, seem to be affected with a fungus or white mould, although very indistinct. It is late now to spray the crop, but it would rather earlier have been worth while to test the effects of a couple of sprayings of the Bordeaux mixture on them. If it be no fungus, then the only other inference is that there is something in the soil or in the water given that may be injurious. The incident is most uncommon. Do not save any seed from the plants or sow in the same ground next year. It seems too much to assume that you have had white frosts to injure the Beans, or that in your locality there were any foul gases generated to cause the young pods to turn yellow and wither up in this way.

Names of plants.—R. S.—Allspice tree (*Calycanthus floridus*).—A. T. Bowles.—Gentiana asclepiadea.

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TREES AND SHRUBS.

NOTES ON SHRUBS IN FLOWER.

AMORPHA CANESCENS.—This curious little shrub—a native of the United States, where it is commonly known as the "Lead Plant"—is one of the few belonging to the Leguminosæ that flower as late as September. Although smaller and much less robust than the better-known *Amorpha fruticosa*, it is a handsomer plant and better worthy of a prominent place in the garden. It does not appear likely to ever grow more than 3 feet to 4 feet high in this country, whatever it may do in its native home, for it is killed back nearly or quite to the ground each winter, sending up a cluster of shoots, which bear their flower-spikes in a mass near the top during the autumn. The flowers are quite small, but very numerous, and clustered very thickly on the cylindrical spikes; the colour is a bright blue-purple, relieved by the yellow of the anthers. The foliage is also very pretty, each leaf consisting of numerous tiny leaflets pinnately arranged. Typically, the plants should have a greyish appearance, due to a dense covering of down on the leaves, but they vary considerably in this respect, some being comparatively smooth on the upper surface and of a darker green.

HYDRANGEA PANICULATA.—Certainly this is the most striking of the few hardy shrubs flowering at this late season, and this applies more especially to the variety *hortensis* (or *grandiflora*). There is a large bed containing both the variety and the type in the Arboretum at Kew, and they make, now they are in full flower, a very conspicuous and striking mass. In the variety *hortensis* (or *grandiflora*) nearly the whole of the flowers have become sterile—as so frequently happens with the members of this genus when brought under cultivation—and this change, although it makes the racemes somewhat heavy in appearance, at the same time renders them much more showy than the type, with its normal proportions of sterile and

perfect flowers. The racemes are immense pyramidal masses, the largest of which measure more than 1½ feet in length by 1 foot in width. The flowers last long in good condition; at first they are white, afterwards pinkish, and even when they have turned brown with age they are not without beauty. In order to produce racemes of the largest possible size, the plants are cut back in early spring, and after the young growths are a few inches long, from six to twelve (or more, according to the size of the shrub) of the stoutest are selected and the rest removed. The plants should be given a good mulching in the early summer and watered whenever necessary, the aim being to get the shoots as strong as possible. Towards flowering time they will need the support of a stake. After all, such masses of flower are something in the way of monstrosities, like the exhibition *Chrysanthemum*, and many may prefer the smaller, more elegant, but still striking racemes produced by unpruned, more naturally grown plants.

RHUS COTINUS.—In the pleasant and interesting grounds at Ribston Park, near York (famous for the Apple that originated there), there are now two fine bushes of this *Rhus* in their fullest beauty. There are larger specimens in the country, but I have seen none that have flowered more abundantly than these or produced a more striking display. The whole surface of the bushes, which are comparatively low and spreading, with a diameter, as near as I can recollect, of 12 feet or 15 feet, is covered with the feathery, pale rose or flesh-coloured inflorescences, almost completely hiding branch and leaf. This *Rhus*, although an inhabitant of our gardens for nearly 250 years, is still but little planted, yet it thrives in poor soil better than do many commoner things that are less beautiful. There is a variety with purplish leaves called *atropurpurea*, the colour extending also to the inflorescence, and there is also a green-leaved variety of pendulous growth. The species is known by several popular names, such as Venetian Sumach, Wig Plant, Smoke

Plant, Burning Bush, &c. It is a native of South and South-east Europe. The only other species in the same section of the genus is *Rhus cotinoides*. These two species are distinguished by their rounded, undivided leaves, the others having pinnate or trifoliate ones, as in *R. typhina* and *R. Toxicodendron*. *R. cotinoides* is very rare both in a wild and cultivated state, but it is one of the most beautiful of autumn-tinted shrubs. It is a native of a few isolated mountain summits in the Southern United States.

SYRINGA JAPONICA.—There is a section of the genus *Syringa* still scarcely known in gardens here which differs greatly from the *Lilacs* of the popular type. The three or four species that belong to it (and of them *S. japonica* is one) are distinguished by blooming later in the season and by their flowers being much smaller and bearing some resemblance to those of the Privets. A specimen of *S. japonica* is flowering now at Kew, and although small, it is sufficient to enable one to judge of the great beauty of the species when fully developed and flowering as it does in its native country. It is the most robust of all the *Lilacs*, making in Japan a tree over 30 feet high with a distinct trunk; in this country it seems inclined to retain a shrubby character. The flowers are a creamy white, and are borne in immense panicles 1 foot in length here, but described as twice as large on fully grown plants. They have a perfume somewhat like that of the Privet; this species and its allies do indeed form a connecting link between the *Lilacs* and the Privets, but it is an infinitely more striking plant than any of the Privets are. The leaves are of the Lilac shape and character, being broadly ovate, smooth and dark green on the upper surface, and firm in texture. It is a native of Northern Japan, and seems to have reached this country by way of the Arnold Arboretum, to which establishment it was introduced in 1876.

CLEMATIS FLAMMULA.—The prolonged heat and sunshine of the past two months appear to

have suited this Clematis, for it is flowering in great profusion, and the whole of the younger portions of the plants are wreathed with white blossom. Whilst very pretty both as regards leaf and flower, it is, I think, in the sweet, strong fragrance of the latter where lies its greatest charm. This fragrance so closely resembles that of the Hawthorn, that as one passes the plant, especially in the evening, he might imagine for the moment that May or early June were back again. This Clematis is an old plant in English gardens, having been cultivated here for more than 300 years. It is a native of Central and Southern Europe. Perhaps owing to its extended distribution in a wild state it varies a good deal both in regard to leaf and flower-panicle. For our climate none of the forms is better than the common one with finely-cut foliage and large panicles of small but numerous flowers. It can be easily increased by means of cuttings.

ARUNDINARIA AURICOMA.—This Bamboo, so named by Mr. Freeman-Mitford two or three years ago, but known for a long time previously under the name of *Bambusa Fortunei aurea*, may now be added to the comparatively few hardy Bamboos that have flowered in this country. All the plants in the Bamboo garden at Kew are bearing flowers, and the same thing has been recorded at Batsford Park and elsewhere. It is apparently one of the species that flower simultaneously over large areas—possibly wherever it is grown—a very remarkable phenomenon considering how different must inevitably be the treatment and conditions the plants obtain in different places. The flowers at present are borne exclusively on last year's leafless stems; this season's growths are as vigorous as ever. It will be interesting to see if the species is one of those that die after flowering (as *Arundinaria Falconeri* does), or, like *Arundinaria Simoni*, flowers with no apparent loss of vigour. It is the latter result one must hope for, otherwise it would mean the loss to our gardens for some time of what is, perhaps, the brightest and most attractive of the dwarfed Bamboos. At this time of year especially the lively variegation of the leaves in green and yellow is most pleasing.

THE DWARF GORSE (*Ulex nanus*).—In the north of England the common Gorse (*Ulex europæus*) is almost the only one met with, and even as far south as the Surrey commons it almost entirely represents the genus. But in Devon and Cornwall it is *U. nanus* that predominates. On Exmoor especially it is extremely abundant. It differs from the common species not only in appearance, but more especially in flowering during autumn. From now till November this Gorse and the various species of Heath that grow there make the moors of the far south-west of England some of the most beautiful spots in Europe. Very frequently may be seen dwarf compact bushes of the Gorse, along with which has grown *Erica cinerea*, the intermingling of whose purple flowers with the golden ones of the *Ulex* makes a most charming combination. In gardens this Gorse is useful for its late flowering, especially on semi-wild banks and such like places. Although it is, as its name implies, a dwarfed plant than the common Gorse, it grows much the more quickly in a young state, forming very characteristic Foxbrush-like shoots during the first few seasons. It is better when planted in poor, rather dry ground, growing less rampantly and producing its golden flowers more freely.

CLEMATIS VITICELLA.—Although the old typical form of this species of Clematis does not make so showy a display as many of the garden

sorts do, it is scarcely inferior to any in real beauty. Its flowers, compared with those of the varieties and hybrids of the patens and lanuginosa sections are of course small—not a quarter the size of some of them—but they are exceedingly abundant and the plant itself is of greater elegance. The flowers vary in colour from blue and purple to white, and they hang in the greatest profusion the whole length of the growths. Commencing to open in July, they keep on without break till September. From the species and varieties of the lanuginosa and patens types, the Viticella group differs in the seed-vessels being smooth and devoid of the feathery awns that are so marked a feature of many of the Clematis. This plant may be trained up rough Oak branches or over arbours and pergolas where a covering is not needed to a greater height than about 10 feet.

B.

Rhododendron anthopogon.—The reference to this Himalayan *Rhododendron* in the interesting article accompanying the plate of *R. campylocarpum* in THE GARDEN of September 3 reminds me that I saw it in bloom in the Edinburgh Botanic Garden in April of this year. Although, as your contributor remarks, it is not a very striking or ornamental plant, it is an interesting one, and I should like to know how far it is hardy in the north-east of Scotland. I have not grown it here, but should not be afraid to try it had I not been able to grow other dwarf species of more beauty in my rock garden.—S. ARNOTT, *Carsethorn*, by *Dumfries*, N.B.

Rhododendron ciliatum.—Perhaps I may be permitted to put in a plea on behalf of this dwarf *Rhododendron*, of which "W. J. B." speaks so highly on page 183. It is a charming species, and one of the prettiest ornaments of the rock garden during its season of bloom. In this district I have occasionally seen it suffer considerably in hard winters, but this may be avoided by following the advice given by your contributor in the article in which *R. ciliatum* is mentioned. In one rock garden with which I am acquainted it has for years formed a feature on a sheltered bank among other shrubs and alpine flowers. Nothing could well be finer than its blooms in the season. It is, I believe, one of the parents of *R. Wilsoni* as well as of those mentioned by your correspondent.—S. ARNOTT, *Carsethorn*, by *Dumfries*, N.B.

St. Dabeoc's Heath (*Menziesia polifolia*).—In well-established clumps this is very pleasing, and the white variety is one of the prettiest hardy flowers we have. In gardens of large dimensions and where the soil is naturally favourable this Heath might be established in colonies. It is one of those things that will remain for an indefinite period in good condition without change of soil, and for this reason is better adapted for naturalising than many things of taller growth. What it likes is an open position, where it can get plenty of sun and abundance of pure air, and then if the rooting medium is right it will increase rapidly. I have set out quite small bits from pots, and in two years they made specimens 18 inches or more across, carrying hundreds of blooms. This Heath will grow in either loam or peat if the former is well drained and the latter is not too sandy and poor, and in any case it must not be intimately associated with rank-growing things that will deprive it of a full measure of light and air. It is easily increased by layering the woody shoots in spring, covering them with 2 inches of good soil.—J. C., *Byfleet*.

Hypericums.—When the summer is on the wane the beautiful golden blossoms of some of the Hypericums are among the showiest of shrubby plants. The colour, too, is now but little represented among flowering shrubs, though in the case of herbaceous subjects the different shades of yellow are very plentiful. Among the best of the Hypericums are the Japanese *H. patulum*, and the hybrid between that species and the common

Rose of Sharon (*H. calycinum*). This hybrid form was raised by M. Moser, of Versailles, and under the name of *H. Moserianum* quickly became a great favourite in this country. This Hypericum may be planted in a bed by itself, in which position it will produce a great wealth of its comparatively large beautiful golden blossoms, or it may with equal advantage be planted as an edging to larger and bolder shrubs. Where some of the taller species of Hypericum, such as *H. oblongifolium*, are hardy, an effective bed for late summer and early autumn may have a centre of *H. oblongifolium* and an edging of *H. Moserianum*. Apart from the beauty of its golden blossoms, the common *H. calycinum* will flourish under trees better than most shrubs, which is indeed a great point in its favour.—T.

STOVE AND GREENHOUSE.

FREESIA REFRACTA ALBA.

FEW sweetly-scented flowers are more useful or beautiful than this, and the bulbs in almost every case that has come under my notice this season have been larger and finer than usual. The largest bulbs do not always give the best results; indeed, I have had far finer flowers from small home-grown bulbs than from some of the finest imported ones, but as a rule if the bulbs are large and heavy for their size good flowers will be forthcoming. Freesias should be potted as soon as received in a light sandy compost and stood outside in some description of plant frame or protection, the pots being covered with about 2 inches of cocoa-nut fibre. Coal ashes or sawdust may be used, but the ashes are not always suitable, and I have on several occasions seen the tops of the young growths blackened when this material is used. This applies not only to Freesias, but to other bulbs grown for decoration. The growths start in a week or two after being placed in the ashes or fibre, and before the stems have time to get drawn they should be taken out and gradually inured to the light. A good plan is to place an inverted flower-pot on each potful of bulbs for a day, the next taking it off except for an hour or two, and as soon as possible placing the plants in the full light of a greenhouse or frame. The cooler the plants are grown, the closer to the light and the more air allowed the better. The growths will then be stouter and the flowers of more substance. All through the season of growth and until the flowers are fully open, plenty of water is necessary; the only time when it is dangerous is before the roots have obtained a good hold on the new soil. Occasional waterings with weak liquid manure are helpful. While the flowers are open the plants are best in a cool, shady house where there is no need of very free ventilation. A fairly dry atmosphere must be maintained of course, but too harsh conditions do more harm than good. The plants are extremely useful for indoor decoration and the scent is very pleasant, being quite distinct from that of most bulbous flowers and very like that of *Boronia megastigma*. After the flowers are over the water supply must be gradually withheld, but one of the most erroneous ideas is that as soon as they have done flowering they must be half roasted and water entirely withheld. The foliage begins to turn yellow naturally when the bulb is fully grown, and this is the time for withholding water. They are then doubtless the better for a thorough ripening, but if dried too early, small and weak bulbs will result. GROWER.

Fuchsia Ballet Girl.—It would be difficult, if not indeed impossible, to name any double

Fuchsia with greater freedom of flowering than this, the small bushes of a foot high being so loaded with the heavy double flowers as to cause the branches to droop to the pots, even though suspended to a central support. The flowers, too, are large, the very double and pure white corolla rendering it conspicuous against the bright reddish scarlet of the sepals.—E. J.

Swainsonia galegifolia alba.—Though a rather old greenhouse plant that was in favour many years ago, and still worthy of extended culture, this is very rarely seen at the present time. Recently, however, Mr. H. B. May had a nice lot of plants in bloom at the Drill Hall, the pure white Pea-shaped flowers showing to advantage amid the pretty and elegant foliage of the plant. The plant is of very easy culture, and answers well to the same treatment as *Coronilla*, *Genista*, and such things. It is an Australian plant belonging to Leguminosæ, and about as hardy as the two genera herein mentioned.

Carnation Countess of Warwick.—Many Carnations of the Tree or perpetual section have from time to time been distributed as good crimsos, thoroughly perpetual in habit, and so on, but most of them have failed to come up to their recommendations. The above kind, however, is not only of the right colour, it is also a good flower, good in form, and free from any splitting of the calyx, while its habit of growth promises well for its true perpetual character generally. The colour for a crimson is very bright, a claret or wine shade lighting up the usually more sombre crimson hue; in short, it is the finest of this shade I have yet seen.

The Stephanotis as a greenhouse climber.—In reply to "A. W.," I once had a fine plant in a cool conservatory. The temperature in the house, which was large and had insufficient piping, frequently fell to freezing-point during very hard weather, and upon one or two occasions below it. Yet the plant, which was in a large pot and trained to the wall and roof, flowered abundantly. A companion plant to it was an unusually large *Hoya carnosus*, which covered a large area and often had over 200 trusses open at the same time. This plant, by-the-by, was in a box only 18 inches by 12 inches and 6 inches deep. It was simply a mat of roots, all the soil having been forced out. Beyond copious supplies of water it had no special attention, and I am inclined to think that many Hoyas fail to flower through over-rich soil. To my knowledge the plant had not been rebotted for twelve years.—GEO. PARISH.

Streptosolen Jamesoni.—Among the various subjects planted out in the beds in Hyde Park are some good-sized bushes of this *Streptosolen*, which have been for some time, and still are, flowering very freely. The flowers when first expanded are yellow, but they deepen in tint till finally they become of a bright cinnabar-red hue. This shade of colour, being very distinct from that of most other subjects in bloom, serves to attract direct attention to the *Streptosolen*. This latter generic name is that under which it was first distributed, and by which it is still generally known, but botanists tell us it is a *Browallia*, of which there are several forms in cultivation, but in nearly every case their flowers are of some shade of blue. *Streptosolen Jamesoni* thrives under much the same treatment as a *Fuchsia*, and cuttings of the young shoots strike root in the spring readily enough. For planting out, it is a very good plan to train the plants up with a leading shoot, as then the side branches are pushed out freely and dispose themselves in an informal manner around the main stem, the result being a very pleasing specimen. It grows freely enough in ordinary potting compost and needs little attention. Sometimes aphides make their appearance, but they are easily checked and do not give so much trouble as red spider, which under glass is apt to effect a lodgment on the foliage.—T.

Evolution of the Streptocarpus.—Since hybrid *Streptocarpace*s were first seriously taken

in hand about eleven years ago at Kew by Mr. Watson, many beautiful forms have been raised, showing great diversity and richness in colouring. Beyond increase in size, very little alteration, however, has hitherto been made in the actual shape or construction of the flowers, which, as everyone knows, are irregular in shape, drooping in habit, and with only two stamens, as a rule, fully developed and capable of discharging pollen. Now, however, a distinct break away from these characteristic lines has been effected by Mr. Pentney, gardener to Mrs. Howard, Worton Hall, Isleworth. By careful selection and hybridisation, Mr. Pentney has succeeded in raising a few plants which have regular flowers, the five lobes being symmetrically star-shaped, standing erect, or almost erect, on the stalk, and with five fully developed stamens. To growers of these lovely *Gesnerads* this alteration of the floral characters will doubtless signify the beginning of a new race of *Streptocarpace*s, and a few years hence we shall probably see as great a change effected in this genus as has already taken place in the *Gloxinia*. In the latter genus, as probably all gardeners are aware, the erect and gorgeous trusses of symmetrical flowers as we know them to-day have been evolved or developed by cultural skill from a plant that had irregular and drooping flowers. If such marvellous results have been accomplished in the *Gloxinia*, it is at least reasonable to assume that the same can be done with the *Streptocarpus*.—JOHN WEATHERS, *Isleworth*.

ORCHIDS.

LÆLIA DAYANA.

FLOWERS of this pretty Orchid come from several correspondents, but few varieties of it at present in general cultivation can compare with the earlier forms. The plant is difficult to keep in thorough health, these small-growing kinds being so liable to injury by fluctuations of temperature and other checks to growth. There can be no doubt that many growers still believe in too much fire-heat for numbers of Orchids, and this species and others nearly related are not any the better for the high temperatures often kept up where they are grown. It comes naturally from considerable altitudes, and where, of course, the air is strong; its habit of declining under cultivation is not therefore to be wondered at when it is introduced to hot, stuffy houses. But cool temperatures alone will not make these *Lælias* an entire success under cultivation. In one of the largest Orchid nurseries recently I noted many species usually grown in strong heat relegated to cool quarters, this and the nearly related *L. pumila* among the number. Many kinds considered difficult to grow were in capital health, but the present species did not look particularly happy.

The best-grown plants I have ever seen were in a very limited collection of Orchids, and their treatment was briefly as follows: The plants on arrival, from whatever source they came, were kept in a cool, moist house for a time, and when growth appeared imminent they were taken out of their pots or baskets and thoroughly washed free of every particle of compost, the leaves and bulbs carefully sponged, and every bit of decay, whether of root or growth, cut out. They were then placed in small pans of clean crocks, bringing the latter right up to the base of the leads, using the top layer in a very finely broken state. These were kept moist, and the disturbance seemed to have the effect of causing root emission. As soon as the least sign of this was noticed—the plants were carefully watched—a little compost was laid in place of the upper layer of crocks. Plants occasion-

ally died under the treatment, but these would probably have done little good in any case. The majority came away strongly enough, especially those that had not long been imported. They were kept in the cool house and watered only very moderately until the growths were getting strong, when the plants were removed to a warmer house. Here they remained until they bloomed or until it was evident that the growths were not going to flower, after which they again went back to the cool house. Respecting the time of removal, this would depend entirely upon the state of the plants themselves, but, as a rule, the species named above was returned to the cool house by the middle of September. The extra warmth at the time named seemed to exactly suit the plants, and after the thorough cleansing they seldom needed repotting for three or four seasons at least, though a little of the surface material was replenished annually. All these small kinds require a perfect grip, as it were, of the compost, and they cannot thrive or flower freely without it. Even if they grow out over the side of the pans a little, no great harm is done, though this must not be allowed to go on too long, and great care is necessary to prevent insects eating the roots. The small white scale, so destructive to even large *Cattleyas* and *Lælias*, is doubly so to these small species, and cleanliness, therefore, is one of the first aids to health. When the bulbs are ripe and plump, not much water is needed in winter; it is the badly ripened and weak bulbs that suffer. In any case shrivelling must be avoided, as weakening in the extreme. *L. Dayana* is often described as a variety of *L. pumila*, but it is distinct as a garden plant owing not only to the colour but the shape of the flower being different. It was introduced into this country by Messrs. Hugh Low and Co. in 1876.

H. R.

Cypripedium vexillarium.—This pretty hybrid is now well known, and shows in a marked degree the influence of *C. Fairieanum*, one of its parents. The other parent is *C. barbatum*, and this it resembles in habit. The pretty drooping petals are a pleasing combination of white, green, and purple, the dorsal sepal is like that of a good *C. barbatum*, and the pouch is deep brownish red. These hybrids from *C. Fairieanum* have an especial interest, as this beautiful species seems as far off as ever from being rediscovered or introduced in quantity. A nice plant is now in flower at Bocking Place, Baintree.

Nanodes Medusæ.—This singular Orchid thrives best in quite a cool, moist house, and the flowers are now open. They can hardly be described as beautiful, but their peculiar aspect against the dull green of the foliage and the long purple fringe of the lip is not without its charm. It does well suspended from the roof glass in baskets of medium size, well drained, in a compost consisting of peat and Sphagnum Moss. During the winter months no great amount of moisture is necessary, but still the plant must not be altogether dry. While growing freely it requires a very large supply.

Cypripedium lævigatum.—This is a beautiful species when well grown, the tall, handsome foliage adding much to the appearance of the plant. This is broad and fleshy, deep shining green, the scapes about four-flowered and 18 inches or so in height. The dorsal sepal is white, striped with purple; the long twisted petals, green, white, and yellow, more or less spotted with reddish brown; the lip yellow. In the Philippine Islands this fine species grows in company with *Vanda Batemanni*, so is naturally exposed to a high temperature. This has usually been repeated under cultivation, but quite recently in a large trade collection I noted some immense growths of it in a house where nearly all the *Cypripediums*

were doing well. There is no doubt that many kinds found in some of the hottest regions are none the better for too much heat when brought under cultivation. All these *Cypripedes* without a doubt like an atmosphere moistened almost to saturation point, so that the tiny dew-like drops can be seen on the foliage in the morning. They like plenty of new compost, too, for it must not be lost sight of that they are grosser feeding than many Orchids, and to leave them year after year in the same pots, with the roots drawing all the nutriment out the first year, is bound to lead to starvation.—H. R.

Masdevallias at Bocking Place.—There is a very interesting collection of *Masdevallias* here, including very many rare forms of some of the smaller species, and though not many were in flower on a recent visit, those in bloom were of great interest. All are grown in a small lean-to house, and this is filled to repletion. One of the most noticeable is the beautiful though malodorous *M. velifera*, a fine form, with the characteristic yellowish flowers, closely covered with minute brownish red dots; the shape of the flower, too, is very distinct. *M. muscosa* is also in full flower, this species being singular in the possession of downy stems and a sensitive lip, that when touched by a fine straw or pencil immediately springs up to the column. It is a rare and interesting species. The lovely little *M. ionocharis* is also in flower, as is *M. radiosa*, one of the prettiest of the *M. Chimara* section. The Peruvian *M. civilis* has a distinct colour, the ground tint being yellow externally and purple within, the tails greenish yellow. It is not often seen in good condition. Others in flower are *M. Schroederiana*, *M. inflata*, *M. melanoxantha* and the distinct *M. peristeria*, while the pretty little *Scophosepalum gibberosum* was also noted. Many of the very tiny section, such as *M. troglodytes*, were flowering, but space will not permit a full description of these.

Epidendrum raniferum.—This is one of the prettiest of the erect-stemmed *Epidendrums*, and makes a bright bit of colour just now. I recently noticed a fine and well-grown plant of it with several spikes of flower in the collection of Mr. S. Courtauld at Bocking Place, Baintree. The blossoms occur in large, loose, semi-erect racemes, and are individually about 2 inches across. The sepals and petals are pale green, spotted with reddish brown, the lip deeply cut into four lobes, the basal pair similar in colour to the sepals, the front ones and column white, the latter lightly spotted with purple. *E. raniferum* likes a rough compost and a fair amount of pot room, good drainage, and careful handling. It is not by any means difficult to grow; on the contrary, it is an Orchid that anyone may cultivate with ease, but it is a mistake to be pulling it about at the roots oftener than can possibly be avoided. Being a native of Mexico it does not require great heat, but delights in ample atmospheric moisture and a light, airy position. Water freely all the time the growth is active, and if the plant can be induced to take a thorough rest in winter the flowers will be more freely produced. It is a very variable species, owing possibly to the fact that it is found growing in a state of Nature over a very large district.

Masdevallia triaristella.—Though one of the smallest of Orchids, this little plant with its tiny flowers is of considerable beauty and interest. The entire plant seldom grows more than 3 inches high, and consists of small terete leaves and carries brownish flowers on almost invisible stalks. The culture of this little species requires care, but there is no special difficulty about it. A very frequent cause of failure is letting the compost get hard and firm through continuous waterings before removing it and giving new material. Disturbance should not be too frequent, of course, but repotting should take place before the compost sours. Healthy roots soon get hold of the new material, but when they have lost a good deal of their vigour, owing to being left too long, they do not take kindly to the compost, and the disturbance is put down as

the cause of failure. Small pots or pans only are needed, the usual mixture of peat and Moss making a good compost, while the present is as suitable a time as any for the work. Remove with a pointed stick all the worn-out material from about the base of the plant, as, unless this is done, the mossy surface soon spreads over the new compost. Water with care after potting, but avoid a dry state of the atmosphere. Keep the plants in the cool house the year through, and never unduly dry the roots. *M. triaristella* is a native of New Grenada and was introduced in 1876.

DENDROBIUM APHRODITE.

ALTHOUGH the blossoms of this *Dendrobe* are not very large, they are very bright and pretty; its season of flowering, too, is greatly in its favour. At first sight the plant looks a good deal like a small *D. Findleyanum*, owing to the swollen nodes of the stems, and it was this circumstance that led Dr. Lindley to name the species *D. nodatum*, that given above being the name that Professor Reichenbach had previously described it under. The growths are seldom more than 8 inches high and the blossoms are produced in pairs—seldom three—from the upper portion. These are each about 2 inches across, the sepals and petals creamy white, the lip roundish, yellow in front, and having two bright maroon blotches at the base. As these flowers occur on the old stems, as well as the last ripened ones, a very bright and showy effect is gained. *D. Aphrodite* is rather more difficult to keep in health than some other kinds, especially if weak plants are procured. A healthy specimen is worth keeping in health, but small bits seldom make good plants under cultivation. The plants do best in baskets or on pieces of Tree Fern stems that can be kept well up to the light, both for the sake of ripening the growth and preventing damping of the young shoots when starting. It does not like much compost about the roots, an inch of good peat fibre and Moss being ample for a medium-sized basketful, while the natural roughness of the Fern stems is sufficient for it when grown in this way. The stems may be cut into lengths of about a foot, and the plant so disposed that the stem may be suspended horizontally, this allowing the growth to get the full benefit of light and air. The baskets are, of course, just as good in this way, but they lead to more frequent disturbance of the plant, and this is not desirable. Water must never be too liberally supplied, especially during the winter months. When growing freely in a light, warm house they dry rapidly of course, but not so rapidly when grown as above as do others of the crassinode and similar kinds growing in small pans. Light dampings overhead are very helpful in keeping down the small yellow thrips that attack this, *D. albosanguineum*, and similar species. It will often be found to grow out of the regular *Dendrobe* season, so that in treating it as to temperature regard must be had to the state of growth. The more it grows in summer the better, but, as a rule, the summer-made growths are not forward enough to flower the first season. *D. Aphrodite* was introduced into this country by Messrs. Low and Co., and is a native of Moulmein.

Cypripedium Mrs. F. L. Ames.—This is a distinct hybrid, raised in Mr. Ames' collection in America. It is the result of crossing *C. tonsum* with *C. Fairieanum*. The dorsal sepal is upwards of 2½ inches in breadth and of similar depth. The ground colour of the upper portion is white, with a suffusion of delicate rose, shading to pale green at the base. It is lined from the base to the apex with numerous dark brown lines. The petals are each 3 inches in length by an inch in breadth. They show the deflexed characteristics of *C. Fairieanum*, are pale green, suffused with rose on the corrugated margin and towards the apex. There are numerous dark lines, with some spotting towards the base. The lip is pale green, suffused with rich brown. It resembles *C. vexill-*

larium in many respects, but it is lighter and altogether larger than that variety. A plant was recently exhibited at the Drill Hall from the collection of Mr. O. O. Wrigley.

Dendrobium atrovioleaceum.—This lovely species was introduced by Messrs. J. Veitch and Sons, Ltd., about 1890 through the late David Burke, who discovered it on one of the small islands in the region of New Guinea. It first flowered in this country in Messrs. Veitch's nursery, on which occasion it was, when exhibited before the Orchid committee of the Royal Horticultural Society, awarded a botanical certificate. Little more was heard of this remarkable plant; in fact, I remember having had instructions to burn a considerable proportion of the importation, the introducers having little demand, or thinking evidently little of it themselves until a plant flowered in the collection of Sir F. Wigan at Clare Lawn, East Sheen. This plant was exhibited January 16, 1894, when it was awarded a first-class certificate. The plant carried a raceme of eight expanded flowers and four buds. It was in great demand from that time, but, unfortunately, the majority of the plants that had been retained by Messrs. Veitch had died in the meantime, although high prices were given for what few remained. It has been exhibited on several occasions since the plant was certificated, and each time it has been one of the chief subjects of admiration. The sepals and petals are pale creamy yellow, spotted with violet-purple and dusky brown. The lip is a very deep violet-purple, marbled with pale greenish yellow markings. The flowers last in perfection several weeks. It requires an abundance of heat and moisture, and should be placed in a light position near the roof glass. Shallow pans are the most suitable for it; these should only be sufficiently large to get the plant into comfortably. The less material there is about the roots the better, as they are subject, like those of most other varieties of the *D. macrophyllum* section to which it belongs, to rot off at the base whenever there is the least stagnation.—H. J. C.

NOTES AND QUESTIONS.—ORCHIDS.

Masdevallia Lindeni.—There is scarcely any difference between this species and forms of *M. coccinea* (Harryana). The colour is similar to that of the variety known as *M. H. conchiflora*, but the flower is a little different in structure. The upper sepal has the habit of bending backwards behind the body of the flower. In every other respect it is similar to *M. coccinea*, and there is no doubt it is only a variety of that species.—H. J. C.

Maxillaria nigrescens.—There is a fine specimen of this species now in bloom in Mr. S. Courtauld's garden at Bocking Place, Essex. It is carrying about thirty of the pretty and singular flowers. The petals are a very deep vinous red, the sepals only very little lighter, the lip deep purple. Like most other *Maxillarias*, this species may be well grown in an intermediate temperature, with abundance of atmospheric moisture and plenty of water at the roots while growing. During the resting season it must never be entirely dry. For compost use two-thirds of peat to one of Moss, and a little loam for the strongest plants. It is a native of Merida, and was discovered in 1842.

Ceologyne speciosa.—This is an old but by no means an unattractive species, and I have noted it flowering in quite a number of collections recently. The habit of the plant is strong and the flowers are perhaps the largest in the genus, though produced on few-flowered scapes. The lip is large and oblong, strongly marked with deep brown ridges of hairs running the entire length; the sepals and petals are smaller, pale yellow. It does well in a shady corner of an intermediate house, and should be grown in pans or pots in peat and Moss, with a little half-decayed leaf soil added. It is a native of Java, where it grows at a considerable elevation, and was introduced in 1846.—H.

FERNs.

BRANCHING TREE FERNS.

THE photo of branching Tree Ferns (*Alsophila* sp.) from which the illustration was prepared was taken on the slopes of the outer range of the Himalayas above the Government Cinchona plantation at Mungpoo, near Darjeeling. They are frequently met with there, and grow to 60 feet high sometimes. The road from Dar-

jeeling to Mungpoo is a most delightful one. In one of the valleys I passed were quantities of *Magnolia Campbelli* in full bloom—a grand sight. I also saw a mass of *Cœlogyne corymbosa* in full flower on the branch of an evergreen Oak. This was at an elevation of about 7500 feet. It is a beautiful Orchid. In the dense forest the trees are covered with *Cymbidiums*. In another valley at a lower elevation I saw quantities of *Vanda Cathcarti*, and on one occasion I saw these in full flower. The

plants were hanging over a rushing torrent, the sides of which were boulders covered with *Hymenophyllums* and shade-loving Ferns, growing in the greatest luxuriance. The walk from Darjeeling to Mungpoo is well worth the trouble, and now-a-days easy to do.

I spent last Christmas in Kumaon, in the North-west Provinces of India. I saw here *Cœlogyne cristata* at 5000 feet growing over ground frozen at mid-day, and some of the pieces I cut off the trees were full of icicles.

producing large well-furnished plants it should be grown in a position where nothing else can touch the ends of the fronds, for these once bruised die back and the pretty tasseled appendages are lost. The house where it is grown should not be too hot or moist, or the growth is not so satisfactory. The pots should be large enough to allow of the plants extending their rhizomes freely, and a more rapid growth is ensured by using the compost in a very open, rough condition, large lumps of charcoal being introduced with the loam and peat. The fronds must be tied up and the base of the plant kept well up when potting, as it is natural for the plant to push vigorous above-ground rhizomes. Water must be very freely allowed, few Ferns needing more moisture at the root. In hot weather well-rooted plants may be stood in deep saucers or pans of water, this preventing flagging of the fronds.

FLOWER GARDEN.

THE ABUSE OF BLUE LOBELIA.

At this charming season of the year, when the summer bedding garden is at its best, how often is the effect of what would otherwise be a brilliant and tasteful garden entirely spoilt by one plant, and that a very pretty one in itself. A few years ago men of taste and perception protested loudly against the over-use and wrong use of the *Pyrethrum Golden Feather*, which, save in spring-time, is really a plant to be avoided rather than planted for ornament. Thanks, no doubt, to folks' eyes being opened, one sees comparatively little of this plant now, so I need say no more about it to-day; but the blue *Lobelia*, the plant to which I now prefer the grievous charge of spoiling many a pretty garden, is so charming in itself, that its constant misuse demands a strong protest.

It is not too much to affirm positively that in the hundreds of gardens, great and small, that I have seen lately, blue *Lobelia* is used as an edging to three-quarters of the beds that are filled with summer-bedding plants, and yet there is never a broad mass of rich blue to catch the eye and fill it with a sense of repose. Take even the London parks, where sometimes one sees what wonders really good taste can work, and yet how often will you see a bed edged with blue *Lobelia*, which not only "swears" generally with the flowers it surrounds, but invariably disturbs the eye where it touches the green grass. Modern milliners no doubt have been busily trying to persuade us that grass-green and a hard blue are fashionable as a combination; but they cannot convince us it is good taste and a thing to be admired. What a pity then it should be so constantly re-

produced in our gardens! A really pale shade of blue is beautiful on grass, as the spring *Forget-me-nots* show us, but the full, rich blue of *Lobelia* next green grass, next red, or next yellow is atrocious, and yet how rarely is it otherwise used. Do let us stir up those who have eyes to see and tongues to talk to protest against this misuse of blue *Lobelia*, which is really at the root of the dislike to summer bedding, which is growing day by day on account of the carelessness and bad taste so often



Branching Tree Ferns in the Himalayas. From a photograph sent by Mr. C. Maries.

jeeling to Mungpoo is a most delightful one. In one of the valleys I passed were quantities of *Magnolia Campbelli* in full bloom—a grand sight. I also saw a mass of *Cœlogyne corymbosa* in full flower on the branch of an evergreen Oak. This was at an elevation of about 7500 feet. It is a beautiful Orchid. In the dense forest the trees are covered with *Cymbidiums*. In another valley at a lower elevation I saw quantities of *Vanda Cathcarti*, and on one occasion I saw these in full flower. The

Judging from the number of old flower-spikes they were thriving well in the cold.

C. MARIES.

Microlepia hirta cristata.—This is one of the finest of exhibition Ferns when grown to large specimens, and these are soon produced owing to its free habit of growth. It is also very beautiful in a small state for grouping or indoor decoration, the fronds standing well in a cool place where more delicate species would not. For

displayed by those who should know better. Nothing is more charming than a broad mass of blue when properly treated, but full, rich blue absorbs so much light that it requires plenty of white, or, still better, cream colour to set it off. There is now plenty of dwarf white-flowered or creamy-foliaged plants suitable for edging blue Lobelia. Why not use them for an edging and put the blue inside? A rich orange or a tawny brown, such as *Gazania* or brown *Calceolaria* give, is most effective near blue when the latter is edged with a creamy-toned plant. *Echeverias* with their bright flowers left on are particularly suitable for edging Lobelia. White and blue in mixture, or white grouped or dotted on blue is always admissible. What a relief to the eye would be a good mass of blue and white as a central object in small gardens now vulgarised by a constant repetition of reds, yellows and blues, and what a satisfaction it would be if anyone would just plant half his garden in the way I have indicated and the other half in the usual blue-edged uniform. I feel sure the difference in beauty and brilliancy would be so great, that another year I should have converted him from the error of his ways. E. H. W.

Oxalis enneaphylla.—Prior to the opening of the flowers of this plant, there is some resemblance in growth to the well-known *Tropeolum polyphyllum*, more particularly when this latter has sent up numerous growths from below. Any apparent resemblance, however, vanishes when the large pure white blossoms of the *Oxalis* appear, very large indeed compared with the general character of the plant, and showy withal. Nestling at the base of a large block of stone, this handsome subject has attracted a good deal of attention this year in the rock garden at Kew.—E. J.

Alstroemeria pelegrina.—Although this is not so beautiful as some of the other kinds, still it is a useful border flower. The colours are distinct from those of most things blooming at the same season, and may be described as reddish purple outside, inside white, streaked and veined with reddish purple. This is useful for decoration when associated with some other suitable white flowers and greenery. Another of its merits is that it follows aurantiaca in blooming, and at the present time (August 20) it is in fine flower, growing amongst other perennials in a warm south border. I am aware it is considered tender. All the same it thrives amazingly in this position with a little leaf-mould over it in winter.—DORSET.

Seedling Pentstemons.—In the series of these beautiful flowers brought to the Drill Hall recently from the garden of Sir Trevor Lawrence at Dorking we saw more than the mere display the blossoms themselves gave; it showed the value of raising such things from seeds each year instead of trusting to the more troublesome and expensive method of raising cuttings in the previous autumn. This alone should prove an incentive to many to grow these things in this way, because any who possess no greenhouse will be glad to know that a warm manure frame will do just as well for such comparatively hardy subjects. The most important point to attend to in raising such things—and it applies equally to cuttings as to seedlings in every department of gardening—is to push the young plants on as rapidly as possible from the very start. It is in this that much time is lost, and irretrievably so, for in cuttings that have become hide-bound, so to speak, the ready flow of sap to the plant must of necessity be checked, and in this way development is curtailed. This occurring in the young stage causes a starved condition, puny growth, and so forth; therefore no more important item exists with respect to the young plant. The seeds of the Pentstemons referred to were sown on January 29 of the present year, and fine exhibition spikes resulted in August and September ensuing. Such a result should

alone speak volumes for seed-raising in such a case, and it is in this way that exhibits, small and unimportant though they be alone, become a source of instruction to many. But to make these things wholly instructive and to show why they are shown, good-sized cards should display their object to the visitor, who perhaps may only regard them as but a few Pentstemons after all.—E. J.

THE REVIVAL OF THE HOLLY-HOCK.

ONE of the most telling object-lessons yet seen of the return of the Hollyhock to its old place of honour and of power in our gardens may be found in the large and very striking use of single Hollyhocks in the Regent's Park, London, this year. Amid all the beds, groups and borders profusely filled and more or less skilfully massed, and the large well-filled vases which possibly are unrivalled in London or any other city, the single Hollyhocks tower above all in their simple dignity and stately grandeur. As one stands delighted in full view of these glowing masses of colour one can but wonder at the decline and fall of single Hollyhocks in our gardens. Not but that room enough and to spare might well have been found for both in most gardens. But surely from the artistic and picturesque point of view the singles are the more telling and effective. Their stature, exceeds that of the doubles, often weakened and enfeebled by excessive cultivation and incessant coddling which render them the easy prey of the Hollyhock fungus (*Puccinea malvacearum*). Probably this disease drove many cultivators back to single Hollyhocks, the double going down in battalions before the touch of the dire disease, and it became plain to many growers that their choice lay between single Hollyhocks or none. It seemed a cruel necessity at the time, but so far as the future of our gardens and landscapes is concerned, this dilemma may, like many other trials, prove a blessing in disguise. Should any growers for broad effects in landscapes doubt this, a careful study of the rich and grand effects of single Hollyhocks in the Regent's Park will almost certainly convince them to the contrary.

Most of us have grown Hollyhocks in lines, groups, or masses of more or less length and breadth, but when we see them massed in scores—fifties, hundreds, probably thousands—they rise in dignity, stature, grandeur, and cumulative force far beyond the mere actual increase of their numbers. Next to their great mass, which gives them such weight amid the trees, shrub foliage, and flowering plants, which are on the whole so skilfully used to enrich and adorn these gardens, the towering height of the single Hollyhocks is one of the most telling and valuable features. To many eyes and minds the effect of much of our general furnishing and the whole of our formal carpet bedding spoilt or greatly marred by its flatness or uniformity. The single Hollyhock rushes boldly through all this with a bound, and he would be at once a bold, presumptuous, and baffled grower who should endeavour to mould the height of his single Hollyhocks with rod and line. The variety of height is almost as great as the variation of colour, the two together going far, by breaking out in the most unexpected places and forms, to constitute some of the chief charms of beds, groups, borders of single Hollyhocks. But this change of fashion from double to single will also have far-reaching results in adding to the health, vigour, and longevity of our Hollyhocks. The development or evolution of single Hollyhocks into double flowers is in itself a source of weakness. It also shows no lack of propagation by eyes, cuttings, budding, or grafting of either roots or tops or stems, all of which are more or less enfeebling, whereas in single flowers one may fall back on seeds as the chief or only means of propagating, for it is not necessary that even the finest single stocks should be propagated by the same methods as double varieties.

For artistic and distant effects, single Hollyhocks are best massed alone. But in most gar-

dens and all our parks abundant space may also be found for doubles. On sanitary as well as artistic grounds, the two sorts, singles and doubles, are best grown separately, and when so grown it is often found that the singles are more free from the rust, while the doubles are more or less infected. Of course, I am well aware that careful culture and copious watering are good antidotes to the Hollyhock fungus, but I have more faith in growing it entirely out through the general culture of single varieties. Neither is it at all certain that we have exhausted the capacity of single Hollyhocks to give us yet higher, brighter, and richer and more vari-coloured—perhaps flaked and bizarred—blooms, as well as yet taller and more branched flower-stems.

D. T. F.

CACTUS DAHLIAS.

EVERY year is bringing into prominence new and beautiful varieties of these Dahlias. It is true they are not, for garden decoration, all that can be desired, but great efforts are being made to improve them in that respect. Still, the flowers are chiefly to be regarded first for the possession of particular and quaint features, and second, their properties for exhibition. Cactus Dahlias are yet but in their infancy, and even the most enthusiastic raisers have been surprised to find what odd and yet singularly beautiful forms they assume. When some clearly defined and set form is once produced—and it may be a long time hence—then will it be possible to improve on their garden characters. Already the earlier varieties, such as Juarez, for instance, the pioneer of the family, have practically disappeared from exhibitions. New ones are rapidly propagated, and thus they come into commerce. The present season will doubtless see a dozen really remarkably beautiful forms added, and it is hoped that the executive of the National Dahlia Society will withdraw others from their list of recognised varieties, so that instead of unduly multiplying there may be such constant revision as shall keep this list within due bounds. It does seem as if for show—and it is doubtful whether there are any more beautiful flowers for that purpose, as usually displayed—it will be needful presently to make two divisions. We have flowers of the most attractive form, having long, narrow pointed petals, that stand out from the centre of the bloom quite horizontally. Of these very perfect examples are found in Charles Woodbridge and Mr. Stredwick's new buff-coloured Magnificent, a rather pretentious name for what is all the same a very perfect flower. Then there is a growing section that has distinctly incurved petals, and Mr. Burrell's Fantasy, one of the quaintest of its kind, has apparently something to do with its production. At the recent exhibition of the National Society at the Crystal Palace there was a close division of opinion as to whether the special prize given for the best bunch of any new variety in the show should go to Magnificent or to Mr. Burrell's Lucius, a beautiful variety of the incurved form, and the latter eventually won, the judges evidently liking the less formal and more true Cactus character found in the incurved petals. But both these fine flowers serve well to show the nature of the advances being made in form in these Dahlias. But even the best of to-day cannot hope for any enduring existence. Like the Japanese Chrysanthemums, they come, are popular for a season or two, then have to give place to others that excel them, and no doubt it is best it should be so, for finality in Dahlias or in any other flower would soon mean death. Just as the Japanese Chrysanthemum with its constant additions and improvements has given

to the whole family a new lease of life, so also has the introduction of the Cactus Dahlia given to the whole family a renewed run of popularity. For one who grows the large show kinds there are twenty who grow the Cactus varieties. It is worthy of note that whilst the National Dahlia Society annually publishes a list of those varieties that alone are, exclusive of seedlings, admissible as Cactus forms at its own shows, no such selection governs competitions in other directions. Of course, the National Society has no power to compel other bodies to adopt its classification, but very much might be done to avoid unpleasant *contretemps* could the National executive induce the committees of provincial shows to mention in their schedules



Puschkinia scilloides.

where competitions in Cactus varieties are invited that the flowers shown must be included in the National list. That would compel judges to make themselves familiar with what are really Cactus varieties and save them from some unhappy decisions.

Many fine seedlings, exhibited both at the Crystal Palace and the Royal Aquarium, may be left over for further notice. A first-class dozen now in commerce and obtainable next season at moderate prices are Keynes' White, the purest white, though not a perfect-formed variety; Daffodil, very slightly paler than Lady Penzance, primrose-yellow and of superior form; Arachne, petals somewhat incurved, creamy white, heavily edged and shaded bright red; Island Queen, the best of the lilac-coloured flowers—better than Beatrice, still leaving room for improvement in its form; Mary Service, a lovely variety, salmon, rose-flushed mauve; Harmony, the best of the apricots, a beautiful colour; Fusilier, very attractive, rosy red on cream; Starfish, a beautiful salmon-scarlet; A. J. Deal, rich scarlet; Cycle, crimson-scarlet, very effective, but needing more refinement; Charles Woodbridge, colour rich crimson, a superb variety; Cinderella, claret, shaded crimson and rose; and Night, richer maroon than Matchless, petals partially incurved. So far it will be difficult to beat this selection for exhibition. A. D.

Phygelius capensis.—It is only within the last week or two that this showy plant has assumed its usual effective character in my garden. This has been due to the way in which its earlier shoots were attacked by a slug-like pest I have not seen here before and which has attacked no other plant here. Only a few spikes came into flower and the whole plant looked very disconsolate. The same has been the case at Kirkconnel, Newabbey, this year. Now fresh growths have been made and the *Phygelius* is as pretty as usual. I have up till now grown it as a bush on the rockery, but I saw it as a wall plant at Glasnevin. Mr. Moore thinks this the best

way to grow it, and on the wall it looked more effective than I have ever seen it in bush form.—S. ARNOTT, *Carskethorn, by Dumfries.*

PUSCHKINIA SCILLOIDES.

THE Puschkinias are among the fairest and most beautiful of spring flowers. It is not easy accurately to convey an idea of the beauty of the colouring in these spring bulbous flowers to those unacquainted with their charms, seeing the blossoms are white and lined with blue, or perhaps merely tinged with blue in some instances, for so many things may be of this class, and the love for striped and indecisive flowers is not great. With these Puschkinias there are an unusual charm and delicate beauty, and which but need to be seen once in good condition to be well remembered. Like many other bulbous plants, the Puschkinia is a spring flower, and of course long since past and gone. At the same time the present is an opportune moment for referring to this dainty group, as no better time in the year could be selected for commencing their culture. In short, it is the best season for planting such things, and by so doing to get them well established and ready for flowering early in 1899. When fully established, which is generally in the second year from planting if good bulbs have been secured, the plants will reach 6 inches to 8 inches high. To do these things justice, whether planted in the border or the rock garden, not less than 1 foot deep of good prepared soil should be given, and this always of a very sandy nature. In some few nursery gardens these plants make themselves quite at home in the ordinary soil. It was so in the Tooting nurseries of the late Mr. Robert Parker, where upwards of twenty-five years ago I had charge of a splendid row of the plant that when in growth stretched out nearly a foot in width and more than 9 inches high. This was a splendid sight when in flower, and when lifted contained a fine lot of bulbs, besides producing a goodly and welcome batch of seeds. A subsequent lot planted from this and treated with rough chopped peat and loam, the whole made very sandy, also did finely; in each case the bulbs were on the level ground in open beds, nor was the soil reduced by a surface covering of carpet plants. These small bulbous plants many of them are much deeper rooting when opportunity affords than is usually supposed, and for this reason when plants are placed in the rock garden some care should be given to securing a good depth of soil for the roots. Where clay soil exists special soil will have to be given such things, the most important matter being to secure perfectly free drainage. Where old clumps exist these may now be divided and replanted without further ado, for I have yet to learn that such things are benefited generally by long keeping out of the earth. Proof of the undesirability of this may be had in the *Chionodoxas* at times, which, together with the plant under notice, when kept long dry only attain half their usual height when planted. A year later a much greater vigour is secured, as the result of the bulbs not being disturbed. This fact speaks for itself, and, assuming there is no deterioration, the bulbs may be left alone for at least four years, and give the best returns by so doing, provided due preparation was made at the start. Where the soil is very light such things may be planted fully 4 inches or 5 inches deep, distributing the bulbs rather thinly. The bulbs are small, rather roundish and fleshy, starting into growth quite early in the year and flowering in April. The flowers are somewhat numerous produced on a rather

densely set spike, more erect both in growth and flower than is conveyed by the accompanying illustration, which may possibly have been taken from bulbs of small size. There is a more compact-growing form distinguished by the name, while the plant is known by the synonyms of *P. libanotica* and *P. l. compacta*, *P. sicula*, &c.

Seeds of this pretty plant are freely produced from good bulbs, and by securing these and sowing in shallow drills in the open ground in well-prepared soil, a nice stock may soon be obtained. The seedlings are quite safe for a couple of years, when they may be replanted with more room, though on similar lines, till flowering is reached. E. J.

HARDY CYCLAMENS.

Few hardy plants have a prettier effect than the varying members of the hardy Cyclamens, which in their flowering cover a very considerable period, commencing, as it were, with the forms of *C. europæum* soon after midsummer and concluding with *C. repandum* in April or thereabouts. When the corms have attained to a large size—and some of them reach 6 inches or 8 inches across with age—the plants are singularly attractive, both by their foliage and the numerous dainty flowers which they produce. In point of culture there are but few items to be observed, the chief of these being a let-alone system when once planted. This is, perhaps, not so essential in the younger and smaller corms as it is when these have attained their maximum. A circumstance bearing on this will suffice to prove what in practice has already been apparent. In looking through some cottage gardens on the outskirts of Kidderminster some years ago I got into conversation with an old sexton who had found a quantity of what proved to be *Cyclamen europæum* growing wild, as he said, in a small copse less than a quarter of a mile from his dwelling. We went together to the spot, which was certainly an ideal one for these plants, but I endeavoured to impress my companion that seeds or bulbs must have been



Cyclamen corm.

deposited where he found them. He was specially anxious I should have a root to compare with my own stock, which he would send me when fit for removal. But though I particularly requested that he should only send a corm of medium size, he sent me what must have been the largest he possessed—giant roots upwards of 6 inches across. Notwithstanding that more than ordinary care was taken in planting, this fine corm, the growth of years, gradually dwindled away, a circumstance as much due perhaps to the age as to the length of time the bulb had been in its position without disturbance. Such very large roots, however, are by no means common; indeed, only one or two kinds ever reach the size named so far as my experience goes. The

position where these were originally found was a plantation of Larch not over thick at the time which I speak, a sharp sloping bank to the south, the soil somewhat sandy and light and freely mingled with red sandstone chips. The same species, *C. europæum*, grows quite vigorously in soil which is just the opposite in some parts of Gloucestershire, viz., in a rather heavy clay, mixed, however, with small gravel from the inferior oolite marl, which assisted drainage to a considerable extent. In the garden of the late Mr. James Atkins in the same county, where considerable attention was paid to these hardy *Cyclamens*, the soil was of a different character and the position much higher also, yet the growth and flowering were all one could desire. Indeed, in midwinter I have seen patches of foliage from the lovely *C. neapolitanum*, of which any garden may be justly proud, spreading out a yard or more across. These diverse circumstances of growth are mentioned to show that these things are by no means fastidious as to soil; indeed, so long as good drainage is given them the soil is of quite secondary importance. At the same time I would suggest that a heavy clay soil be liberally treated with old mortar rubbish and leaf-soil together with being deeply dug also. Given this, these pretty plants may adorn the rock garden, the border, or the hardy fernery, and if planted in groups make a pretty and attractive feature.

The species of which we have an illustration to-day is one of the dwarfiest of the genus. It is also one of the most showy in point of colour, even though small in size, while the firm texture of the smooth, round leaves renders it distinct from all else in this genus. The type species has flowers of a bright crimson; there are also varieties having rose-coloured and white flowers respectively. All these have a preference for partial shade, and are somewhat more lasting when in such a position. It is a native of Southern Europe and Asia Minor, and may be transplanted from June to September, when dry roots are easily obtainable in plenty. Pot plants, of course, may be dealt with at any time. *C. europæum* flowers during late summer, commencing in the end of July. As a rule, the flowers of this are much larger and more pointed in the segments, and possessed also of a pleasing and decided fragrance. Some pretty effects may be secured from the foliage of this kind, which is marbled with white above and reddish purple beneath. It is a very old garden plant, yet not so freely cultivated in those positions in the garden which suit it best. *C. ibericum* in point of culture may be regarded from the same standpoint as *C. coum*, yet in its many and variable forms it is superior to the latter. Some varieties of this species were raised by Mr. Atkins in his Painswick garden and bear his name. Of this species there are red, rose and lilac varieties, and a charming white kind with crimson base which is known as *C. i. Atkinsi*. *C. neapolitanum*, the Ivy-leaved *Cyclamen*, is among the most attractive of the fine-foliaged kinds, the leaves not only handsomely marked, and worth growing for this reason alone, but produced in considerable quantity also, and simply carpeting the earth with their beauty. This kind is also full of vigour, and being obtained at a cheap rate, worthy of being freely introduced to rock garden and woodland. In the latter, however, some clearance will be needed where strong herbage abounds. There are rosy pink and white forms of this beautiful plant, and with *C. græcum*, which is also covered with beautiful foliage in autumn and winter, are among the most charming of this pretty race of plants.

In making permanent groups of these, a depth of 3 inches or 4 inches is usually sufficient covering. *C. africanum* and *C. repandum* should be planted in the more sheltered places and covered with leaves during the winter. The above with *C. cilicium*, a prettily formed flower, are all worth attention in the garden, for though some of them closely imitate other species or forms in their flowers, they do not all appear at the same season, which is an item worth remembering in a group with so many attractions. In all but the lightest of soils, old mortar rubbish to the extent of one-third may be added to the soil with advantage when planting, and where the soil is of good depth the plants will be safe for years. E. J.

FLOWER GARDEN NOTES.

PENTSTEMONS.—The various blocks of *Pentstemon glorioideus* sown early in 1897 were at the end of that season looking fresh and well, and showing such sign of breaking away vigorously, that I decided to let them remain, mulching between them with good manure. The result, however, has not been satisfactory, and in future I should always treat this as an annual, sowing early in the season and removing at the end of the year. I have a nice batch to hand from seed of the hardy varieties *barbatus*, *coccineus*, and *glaber*, and these will shortly be planted in bold clumps in a large bed, intervening spaces being filled in with *Tufted Pansy Violetta*. Another bed about the same size, planted in a similar manner, which is likely to make a good show, will consist of *Melton* and *Ormonde Pyrethrums*, with a groundwork of *Albino Pink*. Another very effective contrast is furnished by *Aphrodite Pyrethrum*, a remarkably fine white, associated with a dark purple *Viola*. Another bed will be planted with a batch of seedling *Gypsophila paniculata*, setting these 2 feet each way to allow of corms of *Montbretia Etoile de Feu* being placed between them. I think this should make a charming combination. In planting beds with early-flowering things it should be remembered, if such beds are to be permanent, that these are over rather quickly, or, more correctly, over early in the summer, and it is therefore a good plan to associate them with some later flowering plant, always of course avoiding an incongruous mixture. That very useful plant, for instance, *Doronicum excelsum*, that everyone should grow largely, is over rather early in the summer, and clumps of this may be alternated with something that will follow in its wake so far as the flowering is concerned. At this season we get a substitute for the *Doronicum* in the splendid *Helenium Miss Mellish*. I do not know what height this attains on good soil; here in light, dry borders the top flowers are between 6 feet and 7 feet from the ground. The long flower-stems allow it to be utilised for tall trumpet vases, and mixed with a bit of feathery foliage it makes a brave show. I am marking some of the herbaceous *Lobelias* this week with the view of future propagation. One does not realise, until a careful inspection is made, that the foliage varies very considerably, in some a green tinge showing in the deeper hue, whilst others, with *Dracæna*-like leaves, show a depth of colour almost approaching *Dell's Crimson Beet*. Possibly where this variation is mixed in rather large blocks it makes little difference to the general appearance of the bed, but if several of the lighter foliaged forms are together the difference is at once apparent, and for this reason it is always advisable when propagating to select the deep-coloured plants. I saw a very interesting combination the other day in the shape of a background of these *Lobelias* faced with a good breadth of *Linaria repens* var. *Snowflake*. The latter may be recommended as a splendid dwarf plant for the front of borders. Its tiny *Antirrhinum*-like flowers are produced in great profusion, and the display is long sustained. The *Lobelias* are suffering from the protracted drought, and although watered more than once

are smaller in foliage and shorter in flower-spike than usual. All flowers, indeed, of midsummer have been below their average, and unless rain comes quickly and copiously, later-flowering things will also be seriously affected. It has been the worst season for *Phloxes* that I remember; the big heads of flower were fairly good, but they were quickly over, and the side shoots were weakly, and what little bloom produced was decidedly poor. I have cut most of them down with the hope of obtaining second growth and bloom, but unless I can give them heavy soakings of water, I fear they are not likely to do much good. *Schizostylis coccinea*, one of the many hardy plants THE GARDEN has done much to popularise, is just coming into flower, and what a beautiful thing! As it is standing at a little distance, with the sun shining upon it, there is a delicate satiny appearance, and the colour is very fine. *Starworts* do not appear to have felt the dry weather so much as most plants, but if the hot, bright weather continues I shall have them in flower earlier than usual, and they will be appreciated for cutting, with *Phloxes* somewhat a failure. Among the best larger flowers for this purpose just at present are *Dahlias*, annual *Asters*, *Salpiglossis*, and *Montbretias*; the last in partial shade are very good.

Charmont.

E. BURRELL.

Dianthus Cyclops.—"E. J." has done well in calling attention to the merits of this handsome single *Pink* on page 190. I have had it in my garden for some years, and prize it not only for its fine flowers, but also because of the little attention it requires. On a ledge in the rock garden it looks very well, the bright-coloured, dark-eyed flowers being very effective. I have not tried it in a bed, and find it looks healthier on the rockery than on the level. Grown from seed it presents some variation both in the ground colour and in the depth of colouring of the centre.—S. ARNOTT.

FRUIT AND VEGETABLE CROPS.

WESTERN.

Moor Park, Ludlow.—The fruit crops about here vary a good deal, but on the whole we cannot complain. Apples in orchards are very thin, but in gardens many of the trees are bearing good crops of nice clean fruit. I will have a fair crop of good-sized fruit. The same remarks apply to Pears, though in some gardens near here the majority of the trees are without a single fruit, owing to the spring frosts. Apricots are a splendid crop, and had to be thinned to about half. Plums are a very thin crop all round here. Damsons the same. Cherries are good. Peaches on the walls are a good crop. Figs are a failure out of doors. Strawberries have been a grand crop, especially *Royal Sovereign*, *Noble* and *Waterloo*. My neighbours have also had splendid crops of these and other sorts, Dr. Hogg, Latest of All and *Jubilee* coming well to the front, but for preserves *Vicomtesse Hélicart de Thury* cannot be beaten here. Raspberries are a fair crop, *Superlative* being grand. I have a local seedling named *Pillar's Seedling*, somewhat like *Superlative*, but with more vigorous growth and larger fruit. This variety has stood the drought well and has borne a splendid crop. Some of my neighbours have had only very small crops, especially on light ground. Gooseberries are only a fair crop, but as a consequence the fruit is very fine. Black, Red and White Currants are plentiful.

Vegetables since the rain are now looking splendid. Peas have not been up to the usual standard owing to the continued drought. Beans, broad, runner and dwarf, are in good condition now, and look like giving an abundant supply. Celery looked short in growth until the rain came, but now it is going ahead. Cabbages never were

better about here. I am now cutting splendid stuff from the second growths, Etampes and Veitch's Earliest of All being the best. Carrots will be a failure owing to the fly. I have had to sow such varieties as Scarlet Model and Early Nantes on early borders to make up the supply. Onions will be a very good crop, especially Tripolis and varieties sown in heat and planted out in May. Potatoes have been splendid this year, and, as far as I can see and hear, are likely to be a heavy crop. The heavy rains we have just experienced may start second growth amongst the early varieties if not harvested, but the late kinds will be benefited. Altogether the season has suited this neighbourhood fairly well.—ALEX. HAGGART.

Forde Abbey, Chard.—In many ways this has been a disappointing season. In the early part of the year many thought things would be extremely forward seeing the weather was so mild, but as the spring advanced this was not so, many things being later than usual. Apricots were the first to bloom, but with me the early blooms were destroyed, yet there is an average crop. The fruit of many kinds is very good, New Early, Large Royal, Moor Park, and Powell's Late being the best. Cherries bloomed grandly, and Morellos are a magnificent crop. Sweet kinds are not very satisfactory in this garden except on a north wall and growing in a hard border. Strawberries were under average on old beds, but from young plants planted last autumn the crop was very heavy, Royal Sovereign, President, Latest of All, and Kitley's Goliath being the best. Bush fruits have average crops except Raspberries, which will not thrive in this garden. Gooseberries are large and highly flavoured. Black Currants are infested with fly. Plums bloomed abundantly, but the crop is only fair. Some trees dropped all their crop from being so badly attacked with fly; in fact I do not remember ever to have the trees so bad before. My best are Jefferson's, Golden Drop, Victoria, Early Prolific, Magnum Bonum, and Monarch. Pears will be a scanty crop, and I am afraid the size will be below average. The trees bloomed abundantly, the fruit swelled up to a good size and then dropped off. My best kinds are the old Crassane, B. Clairgeau, Emile d'Heyst, and Marie Louise. Apples are an average crop. Some trees have dropped the greater part of their fruit. Nuts are above average; Walnuts average, and hedge Nuts a heavy crop.

The dry weather is having its effect on the Potato crop, more especially where the land is poor and badly worked, and the crop will be very thin. In this garden the crops are grand.—J. CROOK.

Stoke Edith Gardens, Hereford.—The fruit crops here are, with the exception of Plums, very satisfactory indeed, and after reading the reports received from various parts of the country contained in the horticultural press we have just cause to congratulate ourselves upon the fact. Plums, as has just been mentioned, are the least satisfactory, some sorts bearing well, while others are but scantily cropped. Early Prolific, Orleans, Czar, Jefferson's, Red Magnum Bonum and Golden Drop are the heaviest laden, and Green Gages are fair. Damsons will not come up to expectations. Apples are a heavy crop, the fruits being clean, well developed and large for the time of year. Thanks to the good effects of the winter dressings which the trees receive annually, insects have given but little trouble. The heavy rains which fell at the latter end of May and again early in June no doubt did a good deal towards saving the crop, as but few fruits dropped when compared with other places. Rain is again wanted for the late sorts, and it is to be feared that unless there is a good fall ere long the trees will cast many of their fruits. For the third season in succession we are suffering from drought, and the thunder and rain storms which have been prevalent of late have passed by without benefiting us in the least. Among sorts of Apples bearing heavily, the following call for special mention, viz., Juneating, Beauty of Bath, Duchess of Oldenburg,

Kerry Pippin, Hereford and Worcester Pearmain, Golden Pippins in variety, Scarlet, Ross, and Old Nonpareils, London, Ribston, King and Cox's Orange Pippins, Cox's Pomona, Queen, Old and New Northern Greenings, Tower of Glamis, Pott's and Ecklinville Seedlings, Lane's Prince Albert, Annie Elizabeth, Maltster, Lady Henniker, Baumann's Red Reinette, Lord Derby, Stirling Castle, Warner's King, Cellini, Small's Admirable, Blenheim Orange, Warner's King, Bismarck, Lord Clyde, Mère de Ménage and Wellington. Of Pears, Beurré Giffard, Colmar d'Été, Souvenir du Congrès, Gratioli of Jersey, Louise Bonne, Beurré d'Amanlis, Beurré Hardy, Alexandre Lambre, Marie Louise, Doyenné du Comice, Beurré d'Anjou, Thompson's, Beurré d'Aremberg, Glou Morceau, Beurré Baltet Père, and Chaumontel are heavy crops. Apricots are a heavy crop, or, I should say, have been, as they are nearly all over. The fruits have been very fine, particularly the New Large Early, and all without exception have ripened to perfection, which fact has enabled their being used for dessert daily for weeks past. Root waterings have not been such a heavy item in their culture as in the two past seasons, while growth has been excellent and clean. All that is now wanted is a fine autumn to mature both wood and buds. Peaches and Nectarines are a good average crop, but much later than usual owing to the cold spring weather. Fly was troublesome in the early stages of growth, but was eventually subdued, since when growth has been satisfactory. Alexander ripened the third week in July, or quite a fortnight later than usual. The fruits were, however, very fine for the variety and of excellent flavour. Royal George, Crimson Galande, Dr. Hogg, Alexandra Noblesse, Raymackers, Magdala, Violette Hâtive, and Bellegarde are also extremely good, and so are the following Nectarines: Lord Napier, Elruge, Downton, and Humboldt. Dessert Cherries have been plentiful and good, but are now over. Kentish and Morellos are a wonderful crop both on walls and out in the open garden. Black fly was rather persistent in its attacks early in the season. Of bush fruits no better crops could be desired, and the fruits have been fine and good flavoured. Superlative Raspberry is a grand acquisition, the fruits being enormous in size and produced over a long period. Strawberries were naturally later than usual, but they continued a long time in use. The crop was an abnormally heavy one, the individual fruits being large and the flavour good. Royal Sovereign fully sustained its reputation as a first early, and gave great satisfaction. One break of this variety made more leaf growth than it has done in previous seasons, but this I attributed to an overdose of chemical manure, as growth on another break was quite normal. Runners were late in being pushed out; consequently planting will not be performed until the last week in the present month.

With regard to vegetable crops, these though late have been unusually abundant and good. Among Potatoes, Famous out-distanced all others in point of earliness, and left nothing to be desired as regards crop. Other varieties have also turned out well, and the flavour when cooked is excellent. Lifting of second early sorts is going on well and the yield is good. Main-crop and late sorts are, to judge by appearances, taking no harm from the effects of the drought, but if the latter becomes very protracted, a great deal of lifting will have to be done when rain does fall, otherwise the tubers will make second growth. So far there is no trace of the Potato disease, for which we are indebted to the hot, dry weather. Peas have been very abundant, and the same may be said of Broad Beans. French Beans are plentiful, and Scarlet Runners are now yielding well. Both crops, however, demand plenty of attention in the way of watering. There has not been a break in the supply of Cauliflowers since they commenced to turn in at the beginning of June, and autumn Broccoli promise to be very fine. The breadths of winter and spring varieties of the latter look well, as also do Brussels Sprouts and other kinds of Brassicæ. Celery has required ample supplies

of water to keep it growing, and even with this attention the early plants are not in such a forward condition as usual. When the weather gets cooler it will no doubt soon make up for lost time. Lettuces and Endive are plentiful and good, they enjoying the shade and coolness of a long border under a north wall. Onions have fairly revelled in the hot, dry weather, and I have never had finer bulbs. Turnips on an east border are tender and first-rate when cooked, the crops to succeed these being on a north border. Carrots of the Short Horn type are excellent. The Intermediate sorts which I depend on for main crop did not grow away so quickly as usual, and will, it is feared, be rather undersized unless rain falls shortly. Turnip-rooted Beet is fit for use, and is far more palatable than the old roots of the long varieties of last year's growth. Seakale for forcing has made excellent growth, and the crowns promise to be very fine. Marrows require plenty of water to keep them in bearing condition, and ridge Cucumbers the same. As soon as the ground receives a good soaking rain there will be much planting of Coleworts, Cabbages and late Savoy to be performed, as it is labour and time thrown away to do it while the soil is in such a dry, parched state.—A. WARD.

The Abbey Gardens, Ramsey, Hunts.—The fruit crop here is a good average one, Apples, Pears, Plums, Cherries, Apricots and Peaches all carrying good crops, although quite two weeks later than usual. Red, White, and Black Currants are above average. Gooseberries on old bushes are below average, but young cordons are carrying heavy crops of fine fruits. Strawberries are good, Royal Sovereign and Leader being the two best varieties. Walnuts are very heavy crops.

Vegetables have been very good. Potatoes are rather below average; a new variety, a round white named Klondyke, grown and shown in this neighbourhood, promises to be a valuable variety.—F. W. SEABROOK.

NORTHERN.

Nidd Hall Gardens, Ripley.—Strawberries were a good crop, but small through want of rain. All bush fruits are excellent. Apricots are a moderate crop. Apples are very irregular, some trees having a nice crop and many none at all. It is safe to say that they are very much under average. Pears are also a disappointment. The bloom was very abundant, but they did not set owing to the cold and rough winds. Plums are very poor.

Vegetables are good, except the Brassicas, and it was far too dry for them; in fact, Broccoli and Cauliflowers had to be planted over again several times. Peas have been very good, only too short lived.—GEORGE ELLIS.

The Gardens, Naworth Castle, Carlisle.—Owing to the cold spring, garden crops are unusually late. Apples are a heavy crop, Pears almost a failure, while Plums are a long way under the average. Gooseberries, Raspberries, Black and Red Currants are extra good. Strawberries have been a splendid crop and of good quality.

Vegetables on the whole are looking well, spring sown Cabbages now coming in. Several in this neighbourhood have been complaining about their early Cauliflowers going down with grub, though none have been affected in the garden here. Carrots are also bad in places, whole beds having to be cleared out and sown or planted afresh with other crops. The Onion fly has not been so troublesome this year. Timely thinning and frequent dustings with soot and wood ashes, with a watchful eye for any plant that may be affected, go a long way to prevent its destructiveness. Potatoes are lifting well, and so far there is no sign of disease. Peas are cropping heavily and free from mildew.—J. HILSON.

Broughton Hall, Yorks.—The spring was most unfavourable for early bloom; consequently Peaches, Pears, Plums, and dessert Cherries are thin. Peaches were badly attacked with blister, the result of a long spell of wet and cold winds.

Later, the trees have made most free and healthy growth. Apples, Strawberries, and all bush fruits are most abundant. The fine, hot weather came just right for the Strawberry crop, which has been excellent for size and flavour. Royal Sovereign, President, Vicomtesse H. de Thury, Frogmore Late Pine, and Laxton's Latest of All are the kinds that succeed best here.

Vegetables of all kinds are exceptionally good, Peas especially so.—J. RAINBOW.

The Gardens, Appleby Hall, Atherstone.—The crops are very good take them on an average. Apples are very light; we have more Blenheim Orange than any other. Pears are under the average, but fruit fine. Plums heavy crop on the walls; standards and bushes very light. Apricots are few. Strawberries, Raspberries, Gooseberries, Currants are abundant and good. Damsons are a failure.—A. GRUBB.

Wortley Hall, Yorkshire.—Small fruits good or fair. Apples, Pears, Plums, and Cherries promised abundantly, but the crops are either under average or a failure owing to the disastrous weather when the trees were in bloom.

Vegetable crops are unusually late. Potatoes a good crop.—J. SIMPSON.

Hornby Castle, Bedale.—Apples are a fair crop here this season, and such kinds as Betty Geeson, Prince Albert, Ecklinville, Lord Suffield, Irish Peach, and Stirling Castle are bearing heavy crops; Warner's King, Dumelow's Seedling, Newton Pippin and Cellini Pippin are very thin. I believe the Apple crop generally in this locality is poor owing to the drought. Pears are also a good crop with me. Souv. de Congrès is fine, also Marie Louise, Pitmaston Duchess, Bergamote d'Esperen, Gansel's Bergamot, and Clapp's Favourite are producing heavy crops. The crop is fairly good in most gardens that I visited in North Yorkshire. Apricots are a fair average crop here, and I think the same may be said generally in this locality. Plums are thin, but on the whole better than last year. There was an abundance of bloom and a fine set, but the long drought has thinned them in most places. Peaches out of doors are a failure with the one exception of Alexander. Currants have produced good crops, and Gooseberries are a heavy crop generally in this district. The Strawberry crop, which promised to be an exceptionally heavy one, suffered very much from the dry, hot season, but Vicomtesse and Royal Sovereign have done remarkably well with me. British Queen is better than I have seen in this district for years.—JAMES NICOL.

Sand Hutton, Yorks.—Apples are plentiful, hardly a tree being fruitless. Pears are, with the exception of a few early sorts, such as Citron des Carmes, Doyenné d'Ete, Louise Bonne of Jersey, and a few Williams' Bon Chrétien, a failure. Of Plums, there are a few fruits on wall trees; standards are fruitless. Apricots and Peaches on outside walls are a thin crop; Cherries an average crop. Raspberries, Red and Black Currants, Gooseberries, and Strawberries are abundant, but all have suffered from the long drought.

Vegetables, although a little late, are looking well, but wanting rain.—JAS. FOLKARD.

Abney Hall, Cheadle.—With the exception of some Apple trees that are carrying good crops of fruit, the other orchard trees are almost a failure this year. Small fruits are heavy crops, especially Gooseberries, Black and Red Currants. Strawberries have been very satisfactory crops, too, and well got. In some places in this district Strawberries have been very heavy crops.

Regarding vegetable crops I am able to report satisfactorily also. The season has certainly been a little late, but with few exceptions the crops are all very good. Peas are excellent; so have been Cauliflowers, early Potatoes, and Turnips. Onions have been unusually free from maggot. The two worst items are Carrots and Parsley, that have done badly owing to the dry weather. Celery has suffered, too, somewhat, but after the recent rains no doubt it will grow apace. Winter

stuff, such as sprouts and Autumn Giant Cauliflower, are looking well.—ROBT. MACKELLAR.

Underley Gardens, Kirkby Lonsdale.—The fruit crops around here are disappointing this season. Apples, Pears, Cherries, Plums are scarce. Bush fruits are average except Red Currants, which suffered from bullfinches. Strawberries are very good, especially Royal Sovereign; Empress of India did very well.—W. A. MILLER.

Mulgrave Castle Gardens, Whitby.—The fruit crop here is a very good one, especially small fruits. Black, White and Red Currants are very fine; so are Raspberries and Gooseberries. Situated as we are on the coldest part of the north coast, and elevated 310 feet above the sea-level, everything is therefore very late this summer. Strawberries were later this year than I have known them for eight years. The crop has been good since the rain fell, but a very large quantity suffered from mildew and the drought. Apples and Pears are only a fair crop. Ecklinville Seedling never fails here; the same with King of the Pippins and Mère de Ménage. Plums on the wall are a poor crop, bush trees a moderate crop. Cherries will not do at all here in the bush form; on the walls Morellos do well, but are a poor crop this year; a good crop set, but fell off after they were half swollen.

The vegetable crops in the early part of season did well except Peas, though the second early Peas have done remarkably well. French Beans will be a failure here unless we get warmer weather. Spring-grown Onions are a failure; the heavy rain on May 20 and 21, when 2·84 inches fell, did a lot of damage. Slugs were exceedingly numerous, and made havoc among the Onions, which I have never known them to do before. Potatoes are a very good crop and of a nice size.—JOSEPH CORBETT.

Grimston Park.—All Apple trees were very full of blossom in the spring, but it failed to set well on many kinds. The weather at that time was not at all propitious; still, I do not think the frosts were the only cause of the thin set alluded to. I have fair crops of Lord Suffield, Beauty of Kent, Keswick Codlin, Hawthornden, Warner's King, Lewis's Incomparable, Galloway Pippin, Barnack Beauty, Stirling Castle, Rose Hill, and Grey Leadington. I never saw such an epidemic of American blight as we have this year. Trees that have not hitherto had a vestige of that pest are in some cases smothered with it this year. Now that the foliage has got hardened, so to speak, I am syringing the dwarf bush trees with paraffin mixture, made with two wineglasses of paraffin to two three-gallon cans of soft water. If kept well mixed during the application, I find it checks the pest and does not injure the foliage. Of Apricots I have a full crop. I had to thin them severely on most trees. Since then—in fact, quite recently—quite a large number of fruit has fallen off, but plenty is left for a good crop. Moorpark, St. Ambrose, Hemskirk, Large Early, and Kaisha are my main kinds. Within the past fortnight I have lost several limbs from the mysterious branch-dying, but not to the same extent as in some seasons. As showing how the roots of Apricot trees will come to the surface of the borders in which they are growing, I may here mention that to-day I have been clearing off a three-year-old plantation of Strawberries from our Apricot border. In digging the ground over for planting winter greens, I found the whole of the surface of the border for fully 15 feet from the base of the wall quite a mass of fibrous roots. This is not a new experience, but I thought it worth mentioning. Apricots as a rule do fairly well in our stiff limestone soil. Were I in a position to do so I would confine the roots to a border say two-thirds of the height of the wall they are growing against, and would not crop this border with anything, allowing it to get equally firm all over first, breaking the surface once a year with a fork so as to admit the moisture, natural and artificial, equally all over the surface. Plums are very thin; even that free bearing useful Plum, Victoria, is almost fruitless

this year. I cannot account for this, seeing that the trees bore extra light crops last year. Here and there in our district one comes across a well-fruited tree; otherwise my remarks apply generally to this part. A local Plum called Balls has nice crops in places. It is not by any means a choice kind of Plum, being more or less bitter even when fully ripe. Winesours, which do well on the limestone soils in this district, are, like the rest, a partial crop. Of Pears we have about a good half crop. The ones that are fruiting well are Doyenné d'Ete, Citron des Carmes, Louise Bonne of Jersey, Summer Franc Real, Beurré d'Amanlis, Urbaniste, Bergamote d'Esperen, Beurré Diel, and Brown Beurré. Morellos are very plentiful, but dessert Cherries are very scarce. The trees seldom bear well with us, especially on walls. Strawberries were very promising at first, being very full of blossom. Unfortunately, fully one half of the flowers at the extremity of the blossom-stems did not swell off at all well. The first opened ones swelled off very well, and the fruit was fine in size. Royal Sovereign, which, in my opinion, is a variety that has come to stay, did very well with me; so also did President, James Veitch, Noble, Jubilee, and a locally raised kind named Newton Seedling. This is a capital kind for preserving, and is later in ripening than the others named. It is an old kind, raised fully thirty years ago by the Rev. Mr. Challoner, then Vicar of Newton Kyme, near here. He once told me its parentage was Keens' Seedling and Black Prince. It certainly favours both these old well-known Strawberries in its habit of growth, &c. Raspberries are a good crop. A variety I have named before, viz., Superlative, still improves on further experience. Like Royal Sovereign Strawberry, it has, in my opinion, come to stay with us. We have good crops of Currants. Carter's Prolific is especially good; some trees of this variety planted three years are simply smothered over with fruit all the length of the branches. There is a good crop of Walnuts, but Hazel nuts are not very plentiful. Peaches and Nectarines are a thin crop, but the trees are healthy and fairly free from insect pests. Should we have a fairly dry, warm autumn no doubt there will be good crops next year. I never protect the Peach, Nectarine, and Apricot trees with anything but a doubled herring net, which is used later in the season for protecting Strawberries from blackbirds and thrushes, which this year have been very troublesome.—H. J. CLAYTON.

GARDEN FLORA.

PLATE 1188.

CLERODENDRON SPLENDENS.

(WITH A COLOURED PLATE.*)

THE true plant of this name is a very handsome stove climber which flowers freely in early spring and onwards through the summer, producing elegant clusters, sometimes 6 inches through, of brilliant crimson flowers. There is also a spurious *C. splendens* in cultivation, which is, I believe, a hybrid of garden origin, between the true *C. splendens* and *C. Thompsoniae*, and which is much inferior to the plant here figured, the flowers being dull in colour. Grown in a moist stove near the roof-glass, *C. splendens* forms a loose climber with shoots from 1 foot to 3 feet long, clothed with glossy dark green oblong leaves. It is a much less vigorous grower than the popular *C. Thompsoniae*; indeed, by stopping the shoots it might be made to form a bushy shrub.

C. splendens was introduced from Sierra Leone in 1840 by the collector Whitfield, and

* Drawn for THE GARDEN in the Royal Gardens, Kew, by H. G. Moon. Lithographed and printed by J. L. Gelfart.



CLERODENDRON SPLENDENS

flowered in Mr. Knight's nursery in the King's Road, Chelsea. Lindley published a figure of it—a poor one—in his *Botanical Register* in 1842, and described it as one of the handsomest stove plants then in cultivation. It has not, however, found general favour, although it deserves to-day all that Lindley said of it fifty years ago. It is essentially a tropical plant, and would grow indifferently well in the temperature which satisfies its near ally, *C. Thompsoniæ*.

The genus *Clerodendron* consists of about seventy species, some of which are almost trees, others being woody climbers, and others herbaceous perennials. A selection of the best of those grown would be *C. Thompsoniæ* and *C. splendens* for the stove, *C. fallax* and *C. fragrans* for the greenhouse, and *C. trichotomum* and *C. foetidum* for sheltered positions out of doors. W. W.

THE WEEK'S WORK.

KITCHEN GARDEN.

GENERAL WORK.—Many crops at this time will need close attention owing to the prolonged heat and drought. The Cauliflower crop has been an uncertain one, many of the varieties turning in before their time, and to meet deficiencies later on, it will be well to give small plants encouragement in the way of food to help them to form heads more quickly. I have early this month been obliged to mulch plants freely to keep them going, for with a dry, light soil it is not an easy matter to get the best vegetables in such a summer as we have just experienced. The mulch must conserve the moisture given. I find spent Mushroom manure excellent, and it should be dug in when the crop is cleared. Another point often overlooked in such soils is the advantage of digging in superfluous green crops. I do not clear away such crops as salads and Spinach, but these if well covered give the land much moisture, as the refuse decays readily.

THE LATE PEA CROP will well repay food in many gardens. I fear there will be a poor return from what may be termed the last supply, as with me it has been a difficult matter to keep the plants healthy, thrips and red spider having been so prevalent this season. My worst failures are with the taller growers, such as *Ne Plus Ultra*, which will be very poor. On the other hand, in heavier soils there will be better results, and now the cultivator by feeding will get a better supply. To check mildew on late varieties I would advise a dressing of Bentley's mildew specific, or, failing this, some soft soap and sulphur made into a wash will get rid of the pest. This should be applied in the evening, well covering all portions of the haulm.

DWARF BEANS will well repay the liberal supplies of moisture they delight in. These should be given late in the day, as they check the spread of spider, which badly attacks these plants. Crops of all kinds, such as old Cabbage, salads, and other quick growers, should be frequently hoed between, as it is essential to keep the surface soil in a sweet condition. Vacant land if at all troubled with slugs, wireworm or other pests should get a liberal dressing of lime, which if placed on the surface before digging in will be pulverised and in better condition.

CELERY, like all other vegetable crops of a succulent nature, will need copious supplies of moisture, and the present is the time to feed it. I have always found that if Celery is given huge masses of rank manure at planting and then left to chance, it is frequently tough and a goodly number of the plants run. Though the rainfall at this season may be sufficient for small-growing plants, it is not so for Celery, as the ample leafage throws off the moisture, only a very small quan-

tity reaching the roots. I find it best to flood the trenches at least once a week from July to the end of September, for by so doing there is not one plant in a hundred that bolts, and the quality is good. Few plants better repay for food given when in active growth, and I have great faith in soot and salt, which, if applied previous to watering, will be most beneficial. Soot imparts a healthy hue to the foliage, and, what is better, it keeps the dreaded maggot at bay. At this time of year this pest is most troublesome, but if soot is used freely when the leaves are moist, it will prevent its spreading. With plants badly attacked it may be necessary to cut away the bad portions of the leaf, as the grub, being encased between the outer and inner lining of the leaf, is difficult to get at. As regards other foods for these plants, if liquid manure from stables can be had, there is nothing better, and previous to giving other foods, such as guano, fish manure or other fertilisers, I would advise the removal of any useless leafage from the base of the plants. This will admit of the manure being given to better advantage and going to the roots. Early plants may now have a portion of soil for blanching, but it must be given after a liberal watering, as to blanch with the roots at all dry will give heads of poor quality. I am not in favour of too early earthing up. It is far better to give just enough to blanch a row or two for present use, leaving others as long as possible to perfect their growth. If earthing up is deferred as long as possible it allows the leafage to get well developed and hardened. The plants may be given moisture more readily, and food also, as long as growth is active. I am of opinion that many failures occur through premature blanching. This is the cause of the hearts rotting in the winter, as the growth of the plant is crippled in its early stages, and the small foliage being the weaker it cannot expand, but decays. When giving soil I usually place from 3 inches to 4 inches at a time, for more retards the growth. The soil given should be in a moist condition. Another moulding up may follow in a couple of weeks' time, and the same routine be observed till the plants are blanched to the length desired. Previous to the earthing up it will be necessary for the plants to be given a tie or support to keep the leaves erect and the soil out of the axils of the leaves. These ties must not prevent the swelling, but should be of a very light material and very loose. Late-planted Celery should get liberal supplies of moisture, and should be left as long as possible before giving fresh soil.

CABBAGE.—Those who prepare a special spot for the spring Cabbage will ere this have got the land in condition for the plants, but if not, no delay should take place in getting the soil ready. Land that is at all infested with grub should be thoroughly dressed with lime to get clean growth. I use gaslime freely, and find by so doing I get good results. Of course it would not be well to give heavy dressings of gaslime and plant tender seedlings at the same time. I mentioned previously the advantages of doing the work some time in advance of planting if the place could be spared for the spring Cabbage, and the lime should be well broken up and pulverised by exposure on the surface for a few days. I am not greatly in favour of placing large quantities of animal manures in land for the Cabbage, as though the plant needs ample food when in active growth, from October to the end of February growth is not large and the rank food at the start fosters a soft growth, whereas a sturdy one is needed to stand our variable winters. It is an easy matter to feed plants just as growth is active, and this is more beneficial than when the plant is put out in the early autumn. In my case Cabbage follows the spring Onions, and, the soil being very light, it is not dug or manured. It was treated liberally for the Onion crop, and the surface-dressings during growth will now benefit the Cabbage. I draw drills previous to planting, as these allow of watering being done more readily, and the land

being hard trodden is just in condition for the plants. When such kinds as Ellam's—and this is one of the best—are planted, they need less space than larger kinds, as the hearts are usually cut in a young state. There is no need to give more space than 18 inches between the rows, and this allows of better working between hoeing and feeding in the spring. I am not in favour of planting the whole spring supply at one time, as it may happen the earliest plantings are the first to suffer in severe weather. I make three—one now, another a month later, and one at the end of February. For this last date the seedlings are pricked off into rows late in October, which give us material for patching or filling up losses, and they make a good succession to the earliest plantings. In planting it is well to make each plant as firm as possible with the dibber. The medium-sized plants are the best for the spring supply, and by drawing for the September planting it will give those left in the beds more room to develop. The seedlings this summer have had a hard time owing to heat and drought, and in some soils they may be affected by club, which must be guarded against and the injured portion cut away, and the roots dipped in an equal mixture of soot, lime, and clay made into a puddle, so that it clings to the roots. On light soils I advise deep planting, and with drills this still holds good, as the stem of the plant is the portion injured in severe weather. I have this season found a great many of the Brassicas are blind, and this should be carefully noted when drawing the plants, and, should the weather be dry, it is advisable to water the seed-beds and the drills the evening before planting. This will make the work more easy and it can be finished sooner than when the soil crumbles and fills in the space made by the dibber. S. M.

HARDY FRUIT.

THE FRUIT ROOM.—The word "room" is more often used than otherwise, but in many cases it would prove more satisfactory if it were a cellar instead. The fault of many fruit rooms is their absorbent properties. They may be constructed in an elaborate manner, but this is no guarantee of their suitability for the keeping of fruit in good condition. The fruit store in order to be effectual should be cool and not too dry. My own idea of one is that of a cellar rather than anything else. Let it be entirely below ground, entered at both ends if desirable; probably this would be the better plan. With an even arrangement of the ventilation through air bricks, the same being controlled at each point both at the inlet and exit, there will not be any undue amount of moisture. The walls of such a place will not absorb much, if any, moisture from the interior, it is true, nor should they do so, but from the exterior they will do so where in contact with the earth. In such a place as this the prevalence of shrivelling would be very remote provided all the fruit was well matured when it was gathered. The fault of many fruit rooms is that of excessive ventilation, this being provided for in unequal proportions. Others are unavoidably too warm from various causes. In my own case this was once caused by its being constructed over the living-room of the bothies, with the chimney also acting in unison. The result was that the fruit ripened in advance, or it shrivelled. The management of the fruit store (as it should be called) needs careful attention. For a time after the fruit is put away rather more ventilation is needed than afterwards, but do not allow this so much by day when warm as by night when cooler. Never store specked or otherwise doubtful fruits with those of sound quality. Avoid also any overcrowding in storing—for the first few weeks at least. Shutters for the windows, to exclude light, are desirable. These also act in keeping out frost later on, whilst at the present time quite the reverse is the case. Look well to the cleanliness of the walls and of the shelves, whitewashing the former and cleaning the latter with carbolic soft soap and water.

FRUIT GATHERING.—Hitherto it has chiefly been the early and non-keeping fruits which have been taken in, but now the earlier of the keeping kinds of Apples will be quite fit to gather. Before writing this I had gathered Yorkshire Beauty, Ecklinville, Frogmore Prolific and Domino, whilst with the very warm and dry weather we must be prepared for other and later kinds to be fit rather sooner than usual. Avoid overcrowding the fruit by putting it into large or deep baskets, using also every other precaution to prevent any injury by bruising. If the fruits be specially good examples and they do not part readily from the branch, it will pay to leave them a few days longer. In dealing with Pears that do not keep long after gathering, it is better to gather at short intervals, afterwards keeping a portion of these gatherings in varied temperatures. If such a Pear as Williams' Bon Chrétien now in season be gathered all at once, it will ripen more or less in the same way, hence waste will ensue. In dealing with a heavy crop of Plums of any particular kind, it is better to treat the crop in the same way. Unless anyone has given it a trial, he will be surprised to find how long cooking Plums will keep in good condition after gathering when gathered in a firm or partially green state. The flavour, it is admitted, may not be quite so good, but the prolongation of the season is an important matter. Those who are fortunate enough to have a heavy crop of those fine late Plums Grand Duke and Monarch, will do well to treat a portion of it in this way. Watch carefully at the same time for any change in the weather, and bear in mind that Plums do not keep well after such changes. Dessert Plums had better be gone over the same as Peaches and Nectarines at least three times a week (every day where the crop is heavy), taking the ripest fruits whilst still tolerably firm if for home use, but firmer or about three or four days prior to being fully ripe if for travelling. Figs must also be treated in this way, otherwise they will not travel so well at this season of the year. Gather all of these tender fruits in the cool of the day—the earlier the better so long as not damp. I prefer to use Grape scissors for taking dessert Plums for fear of injury to the bloom as well as to secure the stalk, without which these fruits do not look nearly so well.

THE CUT-LEAVED BRAMBLE.—It has occurred to me that the cut-leaved Bramble is worthy of a special note. Just now the canes are completely loaded with their heavy crops of large fruits, a dish of which may be gathered in a few minutes without moving a step. These are used both for dessert at the breakfast table and for cooking. Ripening as they do in succession, the season will be considerably prolonged, the first fruits being only just gathered. This Bramble is well worthy of extended culture in any garden, but more especially in places where the wild Bramble cannot be safely guaranteed. It affords a most welcome change, whilst it is a capital substitute for the autumn-fruiting Raspberries where these are unreliable. My plants are growing at the foot of a low wall facing north and north-east; hence the roots are cool and moist, two desirable attributes to success, whilst it also facilitates the object in view, viz., that of retarding the crops as long as possible. Compared with the Wilson Junior, the cut-leaved variety is infinitely better, both in flavour and cropping qualities, while it is also later in ripening.

AUTUMN-FRUITING RASPBERRIES.—These are later than usual this year, owing no doubt to the drought in my case, as their position is not so good. These evidently require a similarly cool soil as the Brambles, and so does the Wineberry, which so far has not been made to do a very great service.

THE DROUGHT.—As the phenomenally dry weather still continues, let watering be one of the chief items. Do not neglect newly-planted trees on any account. These are almost sure to be the first to suffer, not only those planted last season, but for two or three seasons past. Trees from which the fruit has been gathered should not be

neglected. These have been severely taxed; hence their fibrous roots will be suffering. Water to these now is the very essence of their existence, bearing in mind the bud-development that has to be completed for another season. Do not be led away by the sere or yellow appearance of the leaves and assume that this is a good sign of maturity. Quite the reverse is the case thus early in the autumn; it may lead to adventitious flowering another spring, but this is not desirable, as all of us should know by practical experience.

HORTUS.

KITCHEN GARDEN.

FEEDING ASPARAGUS.

EXPERIENCE is the best tutor in all things relating to the management of a garden, but the experience most desirable is that which has a certain amount of scientific knowledge to guide it. In the cultivation of Asparagus, it is surprising to see how well it succeeds on some soils with little effort or trouble taken to promote its growth, while on others it is a hard matter to get it to exist. At Oakmere Hall, Northwich, in the Delemere Forest—the centre of salt in Cheshire—it thrives amazingly in the red sandy formation with only a top-dressing of stable manure. Some beds I saw last spring were a mass of young, strong, succulent growths—the best evidence of suitable soil and management. Mr. Brunton, Captain Higson's able gardener, informed me that he practised the old method of culture by simply covering the beds in early winter with farmyard manure, and removed it in spring, and that nothing more seemed to be needed. Facts verified his conclusions, and proved that the medium he had to deal with was a naturally rich one, for the soluble fertilising constituents of the manure carried into the soil of the beds by the winter's rain could not equal the amount abstracted from them during the growing season. This sandy soil, too, was a guarantee of good drainage, and that the chance of crowns rotting was reduced to a minimum. Having myself to deal for years with a very much heavier formation than the one at Oakmere Hall, I found the method of culture adopted there detrimental in my case. In fact, in practising it the crowns diminished in numbers and the growths grew smaller year after year. This undesirable result led me to devise other means of supplying the waste of plant food material to the soil than the one described, which was accomplished in this way. Whenever growth ceased, the beds were mown with a scythe, all the stems collected and burned on an adjoining piece of land, and the ashes returned to the beds. All weeds were cleared off, and a heavy dressing of basic slag, kainit, and a fair amount of farmyard liquid manure, neat, was then put on. Towards the end of the year 3 ozs. of sulphate of ammonia was applied to the square yard, and about half that quantity of kainit again in spring, immediately before growth started. At the end of the year following this treatment there were visible signs of improved vitality, which were maintained till at the third year the growths were all that could be desired. Although the land was heavy, yet it was well drained, resting on a bed of gravel 2 feet below the surface. Had it been a clay subsoil I certainly would not have used the liquid manure, as its tendency to promote organic acids in badly drained, heavy land would have been a barrier to healthy growth. As it was, an occasional dusting with quicklime was essential to the sweetening of the soil.

I may also add that under this system of feeding Asparagus more labour is entailed in its cultivation than under the older one, as the potash and phosphorus used as top-dressing do not readily go well into the land. There is an affinity between them and the soil, and they are consequently most abundant near the surface. Grass or any other shallow-rooting weed getting a hold of such a compost grows apace and arrives early

at the flowering and fruiting stages, which stages these ingredients foster, necessitating frequent attention to keep them under. It is imperative, however, that these weeds be kept down as much for the tidy appearance, which should dominate the whole garden, as for the rich manurial constituents they would deprive the Asparagus of. Rather heavy, but well drained land treated in the foregoing manner and kept free from weeds will, under ordinary circumstances, support the growth of strong succulent Asparagus, and be one of the most remunerative as well as the most useful quarters of the kitchen garden.

J. RIDDELL.

Globe Beets.—Although these round-rooted Beets are not popular in the markets, it seems difficult to assume that very soon so fine a stock as the blood-red one just awarded a merit certificate will not presently make its way in public estimation. The roots are unusually deep, in fact as deep as broad, and therefore practically round, also very handsome; the flesh is very solid and of a fine grain, in colour rich crimson-red. It could not be better in any variety. This stock shows how great is the advance made since the introduction of the Egyptian Round, the flesh of which was alternately red and white. The stock is so good that the selector is entitled to high praise. Of course, there are other good stocks in commerce, but none seem to show greater depth of root, and therefore more flesh, than this one.—A. D.

Autumn-sown Onions.—Four of the stocks of Onions grown during the winter and summer at Chiswick and presented at the Drill Hall on the 6th obtained awards of merit. Although not new varieties, those of Banbury Cross, Nuneham Park and Rousham Park Hero, flattish round, greatly resembled each other, but they are regarded in the trade as distinct. The stock of Wroxton was quite oval and distinct, and although the bulbs did not seem so large, they were very solid and heavy. No doubt the best of the ordinary spring-sown stocks are those which give oval or deep round bulbs, as they are less liable to split. The autumn-sown bulbs were, as a rule, three times heavier than were the best bulbs of the spring sowings. It is determined to submit the autumn-sown bulbs to the test of keeping, and those features will be reported upon.—A. D.

Tomatoes planted out.—There is no check to the demand for Tomatoes, and at the present rate of progress they look like supplanting nearly all the other crops that are grown under glass, for the simple reason that everyone is using them. Although we find Tomatoes planted in houses of the most approved fashion, as well as in houses that only a few years ago were devoted to Vines or Peaches, still the demand is fully equal to, if not in advance of, the supply, and we may confidently expect this to go on for some time, or at least until growers are able to fully realise that they can hardly overstock the market with really good Tomatoes. When I speak of good ones, I do not think it is possible to raise new sorts of much greater merit than we already possess, for I consider that we have varieties enough, as near as it is possible to get them to perfection. When one has decided which variety suits him best, there is nothing gained by increasing the number. I have Chemin Rouge, Perfection, Ham Green, Nimrod and others all growing together, but one sort would do just as well, for no one cares for anything but the smooth-skinned bright scarlet kinds. If the fruits are of medium size, say four or five to the pound, they are much preferred to those that are nearly one pound each. I grow them for earliest crop in pots about 12 inches diameter, for successional crops in boxes, wherever any space can be made under glass, or even outside, where the reflected heat from the glasshouses helps to forward them, but in no case do they produce such a weight of crop or keep on swelling up the top fruits so well as when planted out in a good deep border of soil, similar to a Vine border, where the roots can ramble far and wide.

No crop that I have ever grown exhausts the soil like Tomatoes; in fact, one needs travelling green-houses for them so as to give them fresh fields and pastures new every year to get the best results.—*J. GROOM, Gosport.*

POTATOES.

EARLY Potatoes will on our rather light soil be this year a considerably better crop than the later varieties, and the cause is not far to seek. The former had done their work before feeling the effects of the continued drought, and turn out fine large tubers quite free from disease. The later sorts, on the other hand, were checked in their growth. They run very small, the skin is nearly set, and rain now would mean growing out rather than a swelling of the tuber. Various opinions were expressed some time back as to the relative merits of early and late planting on this soil. I should certainly prefer the former. It is better to risk getting a bit of the haulm frost-nipped if one can ripen the crop and lift before the advent of autumn rains. The introduction of large early varieties, of excellent quality—varieties I mean that if planted with the Ashleaf can be lifted at the same time—was a great boon, especially when it is considered that the majority are excellent keepers. A sort known as Holborn Abundance, grown now some ten or twelve years, still verifies the exceedingly favourable impression formed at the first trial. It has the reputation of being rather coarse in places, but I think this is a matter of suitable soil and careful selection. I have always saved my own seed, and now after twelve years the crops are as good as in the first season. Some of the tubers are of extra size, but they are also of excellent quality, and early in the season are, when well cooked, literally balls of flour. It is ready to dig with the Ashleaf, and is a heavy cropper, averaging in the majority of seasons ten tons per acre. I have to-day (August 22) started lifting another special favourite—Windsor Castle. The crop is very heavy, perfectly free from disease, and very few small tubers. The fact that this Potato will keep up with the latest and yet is ready to lift early in the season should always secure it a prominent place. Personally, I shall rely almost solely another season on the two already named. There is a qualifying statement here because a sort on trial for the first time—Ninety-fold—has turned out so remarkably well that it must be planted again, and to a larger extent. The soil is as a rule about right for Potatoes; if there is a sign of heaviness where planting is contemplated I work in a heavy dressing some 4 inches thick from a heap composed of vegetable refuse, leaves, short grass, and a little manure, and, as the ground is deeply dug, this is well worked into the bottom of each trench. *E. BURRELL.*

Cucumbers failing (S. W. P.).—Your complaint respecting the fruits of your Cucumber plant dying off prematurely is a very common one, and is doubtless due to inferior soil and to lack of needful warmth. Possibly your soil may contain too much iron, or it may be too light and gritty, as it came from the roadside—not at all the best place to get good Cucumber loam. Before using any other for Cucumbers, mix with it some soot, and a little stiff clay, well exposed to frost all the winter to sweeten, will be very helpful. Complaints of this nature usually come from amateur growers, who as a rule give their plants far too much root room and a soil that is not sufficiently sweet or solid. Can you not get fresh, sweet turfy loam from a fresh position another year? You say you have ample heat. The temperature should range from 65° at night to 80° in the day.

Jerusalem Artichoke disease.—Those who have, like myself, been troubled with the virulent fungoid disease which attacks the Jerusalem Artichoke, especially the white variety, will do well to examine their stock at once and pull out bodily

all affected plants. Though all I have planted this year came to me in the spring from stocks which have hitherto shown no disease, and were planted in quite a different part of the garden to that occupied by last year's diseased stock, I have already found a dozen or more affected plants, which I have destroyed in the hope of stamping out the disease. These were all of the white form, which confirms my experience last year that this is peculiarly liable to take the disease. Both purple and white are again occupying one plot. The first sign of disease appears in the stems, which turn black about a foot from the ground and then become covered with mildew spots; the disease then proceeds downwards, and soon turns the whole of the small tubers and fibrous roots into a rotten mass. Until it has made some progress the upper portion of the plant is not affected and keeps on growing, so that it takes more than a casual glance to detect its presence. The virulent nature of this fungoid disease, which is said to be a form of *Peziza sclerotiorum*, is shown in the fact that the ground occupied by the diseased Artichokes last year has been planted this summer with Buda Kales, very few of which have escaped from an attack, though they appear, so far, to be able to resist it sufficiently to prevent their being killed outright.—*J. C. TALLACK.*

NOTES ON TOMATOES.

THROUGH the kindness of a friend, a large market grower in Jersey, I have this season been enabled to conduct a trial on a small scale of different kinds of Tomatoes, all raised from seed supplied by him. The object of doing so was to ascertain which were the best among the number grown, both as regards earliness, cropping powers, size, colour, and last, but not least, quality and flavour. One sort belongs to the corrugated section, the remainder being smooth and round, and more resemble the Perfection type. Again, one sort has a salmon-red skin. The others are red, varying from bright red to crimson. As regards size, there is little to choose between them, the smallest attaining to fair proportions and quite large enough for general use. As regards cropping capabilities they are all very prolific, but the sort which will be presently mentioned first on the list takes the palm in this direction. The plants have been grown in shallow boxes trained to single stems, and all received the same care and attention in every detail, so that the trial should be an impartial one. The first sort is one named—

EXTRA ROUND SEEDLING.—This is a dwarf, short-jointed kind, producing a truss of flowers at every joint, and it is a very free setter. The fruits are large, round, smooth, bright red, solid, and of fine flavour. It also possesses the additional merit of being very early, as it ripened its fruit quite three weeks in advance of the others. This is a most promising sort, and one that I shall grow largely another season for early supply, as its adaptability both for market or private gardens is very pronounced. The next is

LORENZ'S FORERUNNER.—This is a taller grower than the preceding, but it is a good cropper. The fruits are large, juicy, firm, and good-flavoured. The only objection to it in the eyes of many growers is the colour, which is salmon-red. This would tell against it as a market variety, otherwise it is satisfactory in every respect.

HACKWOOD PARK is a splendid Tomato, but lacks the earliness and dwarf habit of the first named sort. As a heavy cropper it ranks next to it, however, and the large bright red fruits are excellent in every way.

SUTTON'S MAIN-CROP.—This is very distinct both in fruit and foliage, and is the one I am least impressed with on account of the fruit being so corrugated. In other particulars, as regards crop, size of fruit, and flavour, it leaves nothing to be desired, and it is just one of those Tomatoes which many English cooks prefer for sauce-making.

FIDLER'S CRIMSON QUEEN.—This is marked as new, and was quite unknown to me. It is an extra large-fruited Tomato, smooth and round, and rather flattened. As its name denotes, it is crimson in colour, and the flesh is exceedingly firm, juicy, and first-rate in flavour. It is a capital kind both for market and private use.

Other sorts raised at the same time were *Industry*, *Chemin Rouge*, and *Polegate*, or *Improved Hackwood Park*, but the plants being weakly from the start and lacking constitution, they were not included in the trial. *Ham Green*, *Sensation*, and *Freedom* I also received, but these had to be excluded owing to their arriving solate in the season. Out of the five sorts tried, *Extra Early Round* stands at the head of the list, as from every point of view it is a model Tomato. As an early sort I know of no kind exactly like it. I class *Hackwood Park* next to it, and I take this opportunity of saying that I can distinguish but little, if any, difference between it and the variety grown under that name in this country. *Fidler's Crimson Queen* comes next, then *Lorenz's Forerunner*, with both of which I was previously unacquainted. They are, however, quite distinct, the former in appearance being somewhat after the style of *Polegate*, but rather more flattened. *Sutton's Main-crop* would be a good sort to grow where the shape of the fruit is a matter of secondary importance, and it possesses a very hardy constitution. *A. W.*

ROSE GARDEN.

ROSE CAPTAIN CHRISTY FOR MASSING.

This splendid Rose is often condemned because its flowers lack fragrance. Although one deplores this fact, there are few Roses really more useful for effective garden decoration. The flowers must become perfectly expanded ere the real beauty of the variety is displayed, but when they are thus developed they are magnificent. The colour is a delicate flesh-pink, edged with silvery white, the expanded flowers of a much deeper hue. As a pink variety for autumnal display it is probably unsurpassed by any other variety, for even *Caroline Testout* and *La France*, two superb Roses, have a bad habit of hanging their head, but the flowers of the variety under notice, being upon good erect stems and having a short flower-stalk, are displayed to the best advantage. In the summer, upon very strong shoots, the flowers are oftentimes malformed, which shows that a less vigorous constitution of the plant is preferable. This would be ensured by leaving the growths rather long at pruning time. It is a Rose that will not do upon the *Manetti*, and is not always a success upon the *Brier* cutting, but upon the seedling *Brier*, with its long roots, it is perfectly happy. This season has clearly shown the value of this stock for its deep-rooting propensity. Roses upon it, especially the above and the glorious *Teas* and *Hybrid Teas*, are just now throwing up the welcome red shoots from the base that betoken, weather permitting, a splendid late autumn display. I cannot imagine how anyone can doubt the *Hybrid Tea* nature of *Captain Christy*, for its exquisite bronzy foliage, of a rich Tea-like colour in spring, is ample evidence of the fact. I do not care much for this Rose grown as a standard, for it is not spreading enough in habit as a standard Rose should be. Probably this is because too much pruning is adopted. I came across a half-standard of this variety in May of this year that was to me a revelation. It was growing in a neglected garden and had not been touched with a knife for three years. Were it not for the ruby foliage I should not have known the variety, for it had a wonderful head and at that time the buds were almost ready to unfold. It was not the climbing form, for it was flowering too freely and on shorter growths than this excellent sport. I am certain that if large heads are desired upon standards they should be less rigorously pruned, even if such

moderate growers as Captain Christy and others are concerned. PHILOMEL.

Remedy for mildew on Roses.—As for the disease you speak of as attacking your Roses, there are remedies in existence which should be able to cure it. First, there is the Bouillie Bordelaise, composed of the following: Sulphate of copper, 4.4 lbs.; ammoniac, 1.76 pint; water, 22 gals. Dissolve the sulphate in the water, and apply with the aid of a syringe or a pulverisator, moving well about, and the morning is the best time. This remedy ought to have a good effect, especially if repeated two or three times and adopted betimes. I have found also that another called "Soufre Babiaux" gives good results. This also contains sulphate, and if you wish I can tell you where to get it. If you already know these two remedies, there are others I could tell you of, but in my opinion those I have mentioned are the best.—S.

Rose Caroline Kuster.—This Rose is described in many lists as a Noisette, and it is unquestionably a hybrid of this class, having very large corymbs of blossom. But it may be considered really a Tea Rose, and is usually exhibited as such. It has many points in common with Marie van Houtte. For the novice it is an excellent kind, hardy, and amenable to almost any treatment. Let it be sparsely pruned and it will make a capital semi-climber, yielding large quantities of its globular, pale yellow flowers. On the other hand, prune it hard, and fine exhibition blossoms may be produced if shoots are well thinned of the side growths and the numerous buds reduced. As a standard, a very graceful head is formed if the plant's natural habit be studied and the growths merely tipped in the spring.

Rose Charles Lefebvre.

—This is the best of all dark Roses, and is also one of the most reliable. Its flowers are very handsome in shape. In colour it leaves nothing to be desired, being of a rich velvety crimson, shaded with blackish maroon. There are darker Roses—for instance, Abel Carrière, Jean Liabaud, and others—but they all fall short of the superior form and grand free-flowering autumnal qualities of Charles Lefebvre. It grows well and is a true H.P. in foliage and stiff, strong growths. Amateurs would do well to plant this Rose extensively, and I am certain it will give them far more satisfaction than varieties so often seen splendid at exhibitions, but never elsewhere. Charles Lefebvre yields plenty of seed, and many kinds have been produced from it, but none approach it in size or quality, which to me proves the need of cross-fertilising. Its best production has been a sport named Sir Rowland Hill. This has equalled the expectations of those who saw it put up and secure the gold medal of the National Rose Society. It is fairly constant, but now and then will revert to its parent. The colour is a most wondrous shade of plum, or rather the purple of a Black Hamburg Grape. Many object to this colour in Roses, but it is distinct, and therefore, in my opinion, admissible. Paul Jamain and Marguerite Brassac are none other than synonyms of the Rose under notice. A climbing form appeared, but this also turned out to be nothing but the original kind. When not required for show purposes I should grow this superb Rose in pillar form, which would allow its strong growths to be left longer, and consequently a larger number of its fragrant blossoms would be given.—P.

THE ROCK GARDEN AT THE MANOR HOUSE, DAWLISH.

ABOUT two years ago I constructed a rock garden at the Manor House, Dawlish, a portion of which forms the subject of the accompanying illustration. Although this illustrated portion forms a kind of forerunner to larger and bolder work containing caves, a waterfall, pond, &c., it forms, nevertheless, a complete little rock-bed in itself. The bed measures scarcely more than a dozen feet or 15 feet across, but its effect is a pleasing one from the fact that it appears to crop up naturally from the ground in the most simple manner. Artificial rock-work never looks so natural as when the stones seem to rise from a carpet of greenery. If this carpet is studded with flowers, they will give, of course, an additional charm to the scene. In every rock garden a stone whose bottom edge can be clearly seen will always look what it is, viz., a detached stone, but directly the bottom edge is hidden from view the same stone will look like a portion of massive rock

(Helianthemums), and a host of other good things. As already mentioned, the little rock-bed is the forerunner of bolder work, from which it is separated by an irregular grass path connected with an ordinary gravel path leading to the rock garden proper. Here a stiff fountain basin was transformed into an irregular pond among rocks, and the water is now a picture of plant life, being studded with *Nymphæa Laydekeri rosea* and other aquatic gems, while Irises, *Spiræas*, and other water-loving plants adorn the margin. Passing over a stepping-stone bridge the visitor finds himself before a Fern-lined cave, from which descends a little waterfall. Above the cave *Desmodium penduliflorum*, *Veronicas*, alpine *Rhododendrons*, and other shrubs make a fitting background to the picture, while below and nearer the water *Dryas octopetala*, *Dryas Drummondii*, *Dianthus alpinus*, *Gentians*, *Primulas*, and other good things abound. Some rocks were specially constructed for the choicest and smallest gems of the mountains. At the further end of the rock garden and beneath the



Portion of rock garden at the Manor House, Dawlish. Constructed by Messrs. R. Veitch and Son, Exeter. From a photograph by Mr. F. W. Meyer.

pushed through from below and apparently continued below the surface of the ground to an indefinite extent.

In the little rock-bed here illustrated the carpets of plants through which the stones protrude consist chiefly of *Lithospermum prostratum*, which, with its bright blue flowers, looks most cheerful, as do also masses of the bright pink *Acantholimon glumaceum* and the Cheddar Pink (*Dianthus cæsius*). *Armeria balearica* covers ground and stones alike, and its pretty white flowers are most abundantly produced. *Sedum album* and *Sedum corsicum*, together with the Cobweb House-leek and a number of Saxifrages, are not only charming when in bloom, but form a capital evergreen carpet refreshing to look upon in winter. The Thrift shown in the illustration is the large-flowering variety, *Armeria cephalotes alba*, by the side of which *Heuchera sanguinea* rears its numerous spikes of coral-red flowers contrasted against some dwarf blue *Campanulas* and the tall flowers of the orange-red *Linaria dalmatica*, a number of Rock Roses

shade of trees is a cave furnished with seats, from which an excellent view of the whole rock garden can be obtained. F. W. MEYER.

Elmside, Exeter.

Pompon Dahlias.—Whilst the taste for the huge-flowered show and fancy Dahlias is limited chiefly to exhibitors of these flowers, a much wider taste is displayed in favour of the pompons, which are really miniature reproductions of the large ones, and have in many respects much more pleasing hues. Of course, they are very solid, rotund flowers, but, being relatively small and borne on the plants well above the foliage in great profusion, they are useful for furnishing cut flowers, and for that reason have many admirers. They are the very opposite of the quaint Cactus varieties, without doubt the most popular, but the pompons are much the most floriferous. A first-class selection of these taken from recent leading stands is—Whites: Snowflake and Lady Blanche. Creamy white: Mary Kirk. Primrose, shaded buff: Marion. Yellows: Orpheus and Emily Hopper. Yellow, tipped red: Sunny Daybreak. White, heavily tipped deep red:

Rosebud. Lilac-mauve: Lilian. Rosy lilac: Nerissa. Creamy lilac: Ganymede. Orange-red: Phoebe. Chestnut-red: Adrienne. Scarlet: Ernest Harper. Deep scarlet: Bacchus. Crimson: Arthur West. Maroon: Douglas. Very heavy shaded maroon-crimson on white: Dr. Jim; and soft puce: E. J. Junker. This is a first-rate selection of nineteen varieties, which all wishing to have a good collection from which to select twelve for exhibition in bunches should grow, because they are of the very best. Pompon Dahlias need no coarse or rich culture; they need deeply-worked soil, plenty of water, to be well mulched, and occasionally thinned, but not more than moderate manuring, or otherwise the blooms may come large and coarse. Medium-sized flowers are much the prettiest and most liked now by judges at Dahlia shows.—A. D.

ORCHARD AND FRUIT GARDEN.

FRUITS FOR NORTH WALLS AND BORDERS.

THERE is nothing more creditable to a gardener than a garden filled with good healthy plants, where order is displayed at every turn. On the other hand, nothing detracts more from a gardener's reputation than space neglected which might be utilised to serve a useful purpose. In most gardens where any neglect of this kind is apparent, it is almost invariably manifested by uncultivated north borders and bare north walls. Sometimes, perhaps, the soil might not be all that is desired, yet in most cases a very little labour and intelligence would secure the essential conditions. I have seen north walls covered with Morello Cherries, Gooseberries, Currants, and Raspberries. Of course, the Raspberries were grown against low walls. There are some varieties of Plums which ought to succeed on north walls, too, under good management. Seeing that we have a selection of fruits which will succeed with a northern aspect and which are suited to different kinds of soil, there are no rational grounds for having bare north walls and uncropped north borders. When I entered on one of my charges some sixteen years ago I found one of the north borders unoccupied with plants, save weeds, and that several attempts to get Morello Cherries to grow upon it ended in failure. On examining the soil I found it to be of a very heavy nature, and the subsoil an impervious clay. As no useful crop could be got from land of this kind, I determined to alter its conditions and make them more in keeping with the requirements of plant growth. Whenever an opportunity presented itself in early autumn I had the soil and clay of a space the width of the border, 8 feet long and 3½ feet deep taken out. About 2 feet deep of the surface portion was wheeled to the opposite end of the border to be used for filling in later on. The bottom 18 inches was used to fill some holes in some ground adjoining the garden. I allowed about 3 inches of a fall from the wall to the outside edge of the border, and then sunk a drain 6 inches lower. The drain was formed with a kind of stone slabs like an inverted V, and on this and the remainder of the bottom of the border a foot of stones was placed on their edges. To protect this drainage from getting choked the stones were covered with turves, grass side downwards, and thus a section was completed. Finding the soil exceptionally heavy, a quantity of screened old lime mortar and plaster was obtained, then another section of 8 feet measured off and 2 feet of the surface of this mixed with the lime and

plaster dressings were thrown back on the prepared section. The whole border was dealt with in sections as other duties permitted me to take it in hand, and although it took two or three years to finish it, the portion prepared during the autumn and early winter was planted the following spring. I ought to have remarked that as the soil was such a heavy one and many crude compounds being brought within the range of plant roots, the whole was ridged and kept as open as possible while the work was proceeding. This enabled the frost and air to play a beneficial part in breaking up the masses and changing the composition of some of its constituents. Whenever the soil was dry in spring the ridges were levelled down, Morello Cherries planted to cover the wall, and Gooseberries to occupy the border, both of which soon filled their allotted spaces. These have continued to do well and yield useful crops. Among the Gooseberries were Aston and White Eagle, so far as I can remember, so that a late supply of both dessert and cooking varieties was secured by merely protecting them along with the Cherries from birds. Since then I have had to deal with north borders of a similar character of soil, and have treated them in much the same way, only I employed Gooseberries and Black Currants to cover both walls and borders. With Gooseberries to cover the walls I used double cordons planted at 2 feet apart, trained vertically, and adopted the spur system of pruning. As there was a space of 1 foot between each cordon ample light and air were at command, and the fruit of Aston was really fine indeed both as regards size and flavour; in fact, some gentlemen remarked that they were equal to Black Hamburg Grapes. The Black Currants were also planted at 2 feet apart, and held to the wall with strained wire and holdfasts. In hot, dry seasons the crops from these were invariably fine, while in many instances those grown in the open ground suffered from drought, and were in consequence impaired.

Borders composed of sandy loam require rather different treatment. Provided the subsoil is a porous one, trenching 2½ feet deep will be all that is necessary beyond incorporating some well-decomposed farmyard manure and bone-meal with it. It is sometimes, however, nothing but sand a foot or 15 inches below, and as 2½ feet of a good root medium is desirable, the sand should be removed, and its place filled up with turfy loam or a fairly good loamy soil. Ridging should be avoided, as solidity is more needed in formations of a sandy nature, and when the sand predominates considerably over the clay and organic matter, treading will prove conducive to the well-being of the plants grown upon it. The fruits to suit soils of this light character are Red and White Currants, Raspberries, and some varieties of Plums which have twiggy growths, such as Rivers' Early Prolific and The Czar. The Currants, like the Gooseberries, are best as cordons for the walls, and the Raspberries as single canes. Plant the former at 2 feet and the latter at 6 inches apart. The Plums are best planted from 12 feet to 15 feet apart, trained in fan fashion, and the young wood laid in annually to supply the crop. The time of ripening of these early varieties of Plums will be retarded, and they will form a good succession to those grown in a more favourable position. As the sandy soils of which these borders are formed quickly become impoverished, it will be necessary from time to time to give them the benefit of a fertiliser. Among natural manures farmyard liquid holds the first place, and, seeing that no deep digging should ever be done once the borders are planted, this

is decidedly the right thing to employ, and the winter months the time to apply it.

J. RIDDELL.

White Grapes.—There is little prospect that Muscat of Alexandria will be ever deposed from its high position as the best and finest flavoured white Grape. Two new white varieties were submitted to the fruit committee on the 6th inst. Gradiska has berries of medium size, almost transparent, and nice bunches, but the fruits when tasted proved quite devoid of flavour. It was even inferior to Buckland Sweetwater, sent for comparison. Worse still were the gigantic greenish white berries of Centennial. These fruits, of almost the dimensions and with just the long form of smallish Victoria Plums, when cut open were found to be comparatively hollow. It is to be hoped that it will not get into commerce. White Gros Colman, Duke of Buccleuch, and Golden Champion, all better than this one, have not been successes.—A. D.

Melon British Queen.—This exceedingly handsome golden-coloured and finely netted variety, having pure white flesh, received, at the hands of the fruit committee the other day at the Drill Hall, the unusual award of a first-class certificate. White flesh in Melons has, as a rule, given the poorest of flavour. This one gave flavour of so rich a description that the committee regarded it as not only the very best flavoured white-fleshed Melon yet brought to the table, but one of the richest flavoured of any colour; hence the high award. No variety has shown more perfect form than has British Queen. It is one of the Frogmore seedlings, and Mr. Thomas is to be congratulated on getting so delicious a variety. It is hoped that all of the other fine fruits of it shown would have exhibited the same very high quality.—D.

Peach Violette Hative.—As an all-round variety for culture inside and out this useful Peach will be hard to beat. It is a good grower and certain to crop, and if not too heavily laden the fruit is large and of good quality. Often a good-flavoured Peach gets a bad name when the tree is so heavily cropped that over-feeding has to be resorted to, for although the excess of feeding will enable the tree to lay the flesh on the fruit, there is sure to be a loss of quality. Violette Hative is a Peach that if reasonably treated will finish up an immense crop of really good fruit, provided the tree is healthy, and this is always of fine flavour if caught at the right time. It is a mistake to leave it on the tree until it drops, for it is then beyond its best, but it must not be gathered too early. A fairly large tree here in an unheated house has been fruiting well, and I go over it once every day, removing all fruits that will part from the tree without damaging the wood. It is one of the best Peaches for packing, as the flesh does not grow over the wood so much as that of many others, consequently the fruit is gathered without bruising. It is also firm in texture even when fully ripe, owing to the rather thick skin. The flesh is greenish yellow, very bright red at the stone, from which it parts readily.—R.

Yellow Ingestre Apple.—I observe that this pretty little dessert Apple is commonly classed as Summer Golden Pippin. That classing seems to have arisen from some confusion, possibly because some not too careful nurseryman has sent out one for the other. It was odd that this matter should have cropped up the other day at the Drill Hall, where Messrs. Veitch and Sons had a fine collection of early Apples, and amongst them were dishes of both Yellow Ingestre and Summer Golden Pippin. Having examined and tested both, I found it was not at all difficult to dissociate one from the other. The Ingestre, originally called Ingestre Pippin, and raised many years ago by Mr. T. A. Knight, of Downton Castle, with the Red Ingestre at the same time, from the same fruit, is a very popular one in market orchards, and always commands a

ready sale. But in the market the Summer Golden Pippin is unknown. The latter ripens early in September, whilst the Ingestre is ripe at the end of September and early in October. There is no other Pippin which will be mistaken for a proper sample of the Ingestre. The variety Messrs. Veitch and Sons have as Summer Golden Pippin more exactly resembles what Rogers in 1834 described as Autumn Golden Pippin, also ripe at the end of September, but which is broader and has a more open eye than has the Ingestre Pippin; the flesh also is firmer. The Ingestre is notably a variety that fruits on the points of the shoots. It should only be thinned. Standards never grow large, and become somewhat drooping in form. It would be very useful could trees of all these Yellow Pippins, Summer, Autumn, Ingestre, Wyken, Golden, Kirke's Golden, Pitmaston, Downton, and others, be planted somewhere so that individuality and uses might be determined.—A. D.

PEAR BEURRE BOSCH.

ALTHOUGH this variety has a high reputation for flavour and the fruits are of good size, it is by no means a select or high-class one generally; indeed, it seldom comes into lists of the best recommended for ordinary cultivation. Whilst it fruits freely on standards in East Kent, where it is largely grown for market, yet is its quality good only where the soil is warm and deep. It seems to like to be near to the sea-coast and on chalk. Inland and in gardens the tree needs to be grown against a wall to enable the fruits to develop their best properties. When grown as a bush or standard the fruits come somewhat hard and deficient in flavour. It is doubtless because of this defect in its character that it is little grown and less seldom recommended for culture. When really fine, clean, well-developed fruits are produced, then flavour and quality of the best are found. In such case the fruits are large, pyriform, and have skins of russet, much speckled with cinnamon; the eye is open and the stalk $1\frac{1}{2}$ inches long. Its season of ripening is in October and November, a time of the year when so many others, and on the whole superior Pears, are ripe, and when, indeed, because they cannot be all consumed before being decayed, so many fine fruits are wasted. We have of early and midseason Pears enough, and of the best it will be hard, as more recent novelties have shown, to excel them. But we could well do with December and January Pears, and were Beurré Bosch but a late ripener it would then be so much more worthy of good wall culture. D.

Mulching fruit trees.—Not for many years has the value of mulching or top-dressing fruit trees with a good coat of manure been so apparent as at the present time, for the difference in the look of trees so treated and others left to withstand the trying ordeal of long protracted drought is most marked, and should convince the most sceptical that this should form one of the principal necessities of fruit culture, at all events, in light soils that are liable to be quickly dried through. Having had a good many dry seasons during the past few years, I had nearly all my wall fruit trees, and a good many in the open, well mulched with fresh stable manure early in the season, for we started the year with a dry subsoil, as the winter, although so mild, was remarkably dry, consequently there was no reserve of moisture in the soil. Although the early part of summer was cool, with light showers, sufficient to keep the surface-rooting crops from taking any harm, it did not take long when the excessive heat and drought set in to show that the trees that were left exposed were feeling severely the effects of the trying ordeal. I never remember to have seen crops of all kinds droop and flag in so short a time

as they did this year, for when the roots were not protected, Raspberries that were promising a good crop one week were gone beyond recovery the next, as the heat was excessive and the nights as dry as the days. In applying mulching it is of little use to place it just round the stem, for the best feeding roots are certainly as far from the base of the tree as the topmost shoots of the tree are in height, and the only effectual plan is to keep the border solely to the use of the trees and mulch it all over 6 inches thick.—J. G., Gosport.

ROOT-PRUNING FRUIT TREES.

I HAVE read with interest the article on p. 169, and doubtless under certain conditions the operation is decidedly beneficial. The necessity for the same, however, depends wholly on soil and situation, and although it may be practised with success in one part of the country, it is worse than useless in another. I write "worse than useless" because the checking of root action, instead of being followed by a proportionate increase of fruit, has a directly opposite influence. I remember, for instance, some years ago, in the course of correspondence with a friend who then filled a post in Devonshire, where the rainfall was considerably above the average and the soil heavy, asking the question as to how Peaches and



Pear Beurré Bosch.

Nectarines did with him, and the reply was, "Very well, if I lift the trees every second or third year." The necessity for discrimination in the matter is obvious when I say that if the practice were followed here fruit would be conspicuous by its absence, and even if a thin crop set it would be small and practically worthless. If circumstances necessitate the removal of anything in the way of stone fruit from one wall, or one part of a wall, to another, no fruit is obtained the first year, and the greatest length of growth made even on leaders would not exceed 4 inches, despite every care and attention alike in removal and replanting, in watering and mulching. Fair growth and a small crop are obtained the second year, but it is not until the third season that the trees are thoroughly at home, and it seems to me that on light, dry soil there is something lacking in the way of strength and vigour which prevents recuperation after the check of removal. I am not questioning the wisdom of root-pruning on some soils. The above is the result of sixteen years' experience in West Surrey with a naturally light soil, sand 2 feet from the surface, and very little facility to acquire heavier compost. The above remarks apply to Pears and Apples as well as stone fruit, especially bushes, pyramids, and

espaliers on the Quince and Paradise stocks. It is in the highest degree desirable so to plant that the trees may not require removal, and the ground about them cannot well be kept too firm. Given a wet autumn and winter I get strong growth, but root-pruning is never practised. The non-restriction of leaders for a season, an occasional thinning out of main branches, and not too close pruning of side growths answer the purpose better than any curtailment of root.

E. BURRELL.

MILDEW ON VINES.

By way of supplementing Mr. Iggulden's excellent instruction for the eradication of mildew on Vines (p. 180), I would detail my mode of operation in dealing with a very bad attack, as it varies a little from that referred to. When I took charge of the gardens at Duncombe Park I found all the healthy young Vines, in a range of new vineries about 200 feet in length, completely covered with mildew. The Vines had been planted the year previous and had made strong growths, which vigorous state of health they were making an effort to maintain when they came under my care. Most of the canes were carrying a couple of bunches of Grapes each. These, the young wood, and foliage were covered with the fungus.

As the fruit would never have been of any use it was cut off and every portion of the plants dressed with sulphur, rubbing it on the canes and young growths with the finger and thumb. A vigilant eye was kept on the leaves and new wood during the growing season for any fresh attacks, and when seen they were treated to a dose of sulphur.

The Vines were pruned in early winter, the glass and woodwork of the houses scrubbed with hot water and soft soap, and the walls washed with quicklime and sulphur. The canes themselves were painted with a mixture of clay and sulphur, the latter forming the major portion, and the surface soil of the borders was removed and replaced with new. In spite of this measure of prevention, mildew reappeared the following spring just as the Vines were coming into flower, and even although a certain warmth was maintained in the hot-water pipes at all times and a stuffy atmosphere avoided, yet I could never clear it out by the use of sulphur and cleansing. Every year it returned at the usual time, and was easily detected on the leaves by its giving them the same appearance as an oily substance would produce on paper—making transparent blotches. Although I could secure good crops—the Vines being unusually vigorous—still, a few berries in every bunch were more or less disfigured. My attempts to get beyond the stage of immunity from mildew induced me to conclude that some of the germs must find winter quarters in the soil of the borders, and led to them being dressed with sulphate of iron. The year following the dressing not a vestige of the evil could be seen, and, as far as I know, it has never made its appearance since.

I again had to deal with mildew on the Vines in my next charge, and here the sulphate of iron did its work in an equally satisfactory manner; therefore, feeling convinced of its efficacy as a specific for mildew germs, I would advise "J. H. F." to try its effect on the floor of his house after carrying out Mr. Iggulden's instructions. Sulphate of iron should be obtained in a finely ground form and applied at the rate of

2½ ozs. to the square yard, and washed in immediately it is applied. It can be obtained from any large agricultural manure manufacturer.

J. RIDDELL.

Name of fruit (S. E. F.).—Your Plum is evidently the old Winesour, but unless shoots to show whether the wood is smooth or downy be furnished, it is not easy to give a correct reply. We are rather surprised to learn that the Plum is esteemed for dessert. In that respect it is far below the merits of our ordinary cooking Plums. The flesh is acid, and leaves in the mouth a very unpleasant bitter taste. Used for preserving with plenty of sugar it is useful, as the flesh is firm. There are many better varieties in commerce. Thus if you had young trees of Rivers' Early Prolific, Czar, Victoria, Emperor, Monarch, Archduke, Jefferson's and Oullin's Gages, you would have of the finest for cooking and good for dessert.

Apple Beauty of Bath.—For a very early Apple this sort is, I think, far superior to any of the older early dessert kinds. This season it has been better than usual, the fruits having grown to a good size. They have coloured well, and the flavour is excellent. It is a great acquisition in a private garden, as the fruit serves to augment the dessert after Gooseberries are over. I find it a good grower, a free cropper, and it succeeds remarkably well as a bush. I should also imagine, judging by its habit of growth, that it would make a good standard. In the course of conversation with a grower for market a day or two ago he mentioned this variety as one he thought of planting somewhat extensively, as the fruit commands a ready sale.—A. W.

CHRYSANTHEMUMS.

CHRYSANTHEMUM W. H. LINCOLN.

This is undoubtedly one of the best all-round Chrysanthemums in cultivation. It is possible to produce fine blooms of this variety quite early in the autumn and to ensure a good supply of fresh flowers up to February. Some five years ago a London market grower created a sensation by bringing splendid blooms into Covent Garden quite a month before the large-flowered kinds made their appearance, and he had no difficulty in selling them at 18s. per dozen. It is not only that this Chrysanthemum can be had in good condition some four months in the year, but it is of such a robust habit that it will produce an abundance of nice blooms under treatment that would fail to give satisfactory results with the major portion of the larger flowering kinds. For this reason it should be grown largely by those who wish to obtain a quantity of cut blooms of good quality with a minimum of labour. Last year I had some plants in 8-inch pots that yielded individually about four dozen blooms of fair size at the latter end of January. These were grown in about as rough-and-ready a way as it is possible to treat Chrysanthemums when cultivated in pots. They bloomed in the same pots the previous year, and were not in any way disturbed. They were cut back rather hard, were set out of doors in April, and watered in the usual manner with the addition of an occasional dose of liquid manure from the time they came into free growth. They made specimens each 3 feet across, and gave me really good blooms the last week in January. It is not many Chrysanthemums that would yield such good returns under similar circumstances. The best results are, I think, to be obtained from plants that have been bloomed in 6-inch pots and are shifted into 8-inch pots in July. Cuttings struck in April

will make nice little specimens carrying half a dozen or more blooms, and the natural habit of this Chrysanthemum being dwarf and compact, such plants are of great service for window decoration, finishing off groups, or for any purpose where dwarf things are required. For late blooming stopping is not necessary. W. H. Lincoln, like Boule de Neige and Golden Gem, makes naturally such a late break, that if the shoots are pinched in June or July, as one must do with many kinds, there is a danger of the buds not opening. If the plants can be kept out in the open until about October 15, and no more fire applied than is necessary to exclude frost, there will be plenty of good blooms to cut through January.

J. C. B.

CHRYSANTHEMUM NOTES.

UNLESS we soon get rain the early-flowering varieties in open borders will be a comparative failure, the growth being stunted and sparse. Mychett White, by its earliness and the good qualities of its blooms, seems by far the best of recent sorts in the section. In any ordinary season it would be fine for open-air culture. One could wish that it were more easy of propagation, for it deserves wide distribution. Mme. Marie Masse is a first-rate pink variety, being so free and early. The absence of rain does not, however, affect Chrysanthemums generally, as by far the greater portion is grown in pots. Sunshine is what they delight in—at least, it is conducive to ripened wood, without which it is hardly possible to obtain satisfactory results. This favourite autumn flower has such a hold upon the many persons who cultivate it, that one rarely meets with a neglected collection. That is to say, it is not common to find Chrysanthemums suffering through want of water; they somehow get what they need in this direction. It is not so rare to find the plants overdone, however, especially in the way of feeding with manures. Year by year one finds over-fed plants in abundance. The big stems and leaves are certainly fascinating, but the "big blooms" so many appear to desire are not often observed resulting from large, sappy stems. My ideas in this matter are that all one requires to produce specimen blooms of Chrysanthemums with good shape, size and colour is a long season of steady growth, a sweet, porous soil and plenty of light and air. Under such conditions, given the necessary attention as to water, the plants will make ample roots. If these be stimulated during early autumn after the soil is practically exhausted, the wealth of bloom is sure to be excellent.

Chrysanthemums up to September have had a deal season, although, by their never-ending wants, they have taxed the grower's time to a considerable extent. Twice or more each day one requires to satisfy their thirst, but the stems are hard and the leaves of a sturdy hue. Rough, almost prickly spines form along the stems of many plants where grown for large flowers; this is a sure indication of ripened wood, such as is bound to unfold fine blossoms. Most of the buds are secured—that is, all side growths have been removed and flower-buds only left at the points of the limited number of stems each plant is allowed to develop. These are swelling rapidly and point to an early season. It is always well to have the bloom-buds in this condition whilst the plants are outside, so that they benefit by the heavy dews at this time of the year. If not formed or otherwise barely seen when placed under glass, the latter has a tendency to draw them up spindly. Being in an open spot, earwigs give but little trouble, but with many cultivators they are a source of annoyance. This pest must be caught. Ill-formed blooms usually result from their ravages in the bud state. Where the flower-buds are not so advanced as to show colour in the florets, the plants are best in the open until the end of the month, but if any should be in the above-named condition, lose no time in putting the same under cover. Damp is dangerous

to the blooms when opening. Many mistakes are made with Chrysanthemums when under glass. Too little air is one, and the want of moisture is another. At first, especially in sunny weather, it is well to make up in a slight way the absence of the natural dews by throwing water among the pots, or even lightly syringing the leaves.

I have not yet heard much of the new Chrysanthemum rust, but fear that it will spread when dull, showery weather comes. Whether it affects the blooms or not it will be well to observe. Most likely in many cases the black spots are not looked for because they form on the under-sides of the leaves. Complaints peculiar to certain sorts do not appear common this year. Thus the variety Mme. Carnot carries its foliage better than usual. Australian Gold in several instances had the appearance last year of being scorched just when the young buds were forming. But, thinking that after all it was the work of tiny thrips, I kept the points dusted with tobacco powder, and this year every shoot has produced its bud properly. The new kind Marie Calvat, from which much was expected, has a similar tendency, so that probably the two sorts named are especially sweet to the small Chrysanthemum foe. Only one variety in my collection refuses to grow under ordinary treatment, and that is a new sort, President Nonin. The blooms of this were much liked last year on account of the apricot tint in the colouring and fine shape, but in these days, when Chrysanthemums are so plentiful, I do not think it wise to bother one's self about "miffy" growers unless the flowers be of unusual excellence.

H. S.

Chrysanthemum propagation from rested plants.—One of the most noticeable facts in the culture of the Chrysanthemum this season has been the superiority of plants from cuttings taken from rested stock. More particularly is this seen in plants of Vivian Morel and the sports of this family, viz., Chas. Davis and Lady Hanham. Growing side by side are plants of these three varieties, each showing the different systems of securing cuttings. Those from cuttings taken from plants grown in pots the previous season and subjected to ordinary treatment are somewhat puny in their growth, with stunted and curling leaves, and looking anything but happy. On the other hand, cuttings taken from plants which were lifted from the open ground, after being there all through the summer and autumn of last year, have grown away freely, being taller, more robust, and partaking of all the necessary vigour to make good plants and now developing buds, which are most promising and distinctly ahead of those previously described. This proves how advantageous this method of preserving the vigour of the stock has become. There is evidence that the Chrysanthemum deteriorates after the first two seasons or so, and on this account, perhaps, it would be worth while to treat the stock as described above.—D. B. C.

Chrysanthemum Lady Fitzwygram.—Among the early-flowering Chrysanthemums this is not only one of the best, but also of the dwarfiest type, and a most abundant bloomer. Veritable bushes of it not more than 20 inches high are a compact mass of buds, of which fully one-half should be removed, even where ordinary-sized flowers are required. This is almost essential, not merely for securing even moderate-sized flowers, but equally so for ensuring a fair amount of stem to cut. One feature of the variety is the way in which even the earliest-formed buds will develop when allowed to remain on the plants, though these are of little use owing to the absence of stem. It is singular how many growers have failed with this early white, a circumstance I believe to be due to the material supplied them rather than any failing or shortcoming on the part of the grower. When first distributed the variety was made much of, and it is indeed a pretty white kind, and the stock, doubtless worked very hard to secure sufficient, resulted in much-weakened cuttings being distributed. In my own case, while according special treatment to

the few I had, the young plants absolutely refused to grow, and after a season's trial were thrown away. With a fair amount of disbudding it is a useful variety, and provides quite a profusion of its pretty white flowers.—GROWER.

NOTES AND QUESTIONS.

Chrysanthemum Louis Lemaire.—This is a distinct gain to the sorts suitable for outdoor culture, as it retains its colour so well. It is a bronzy red on a yellow ground sport from M. G. Grunerwald, and, like the parent plant, is a free-flowering variety. The foot-stalk and growths are not so strong as desirable, yet the plant is valuable on account of its other good points. It is of dwarf habit, like the parent plant.—C. A. H.

Chrysanthemum May Mauser.—There is plenty of room for novelties of the kind represented by this charming flower. The blossoms are distinctly neat and pretty, with fairly long twisting and curling florets of good substance and of an ivory-white colour, with a pale primrose centre. As represented in Mr. H. J. Jones's group at the Royal Aquarium last week, the plants were from 3½ feet to 4 feet high and flowering on the first crown bud from a natural break.—D. B. C.

Chrysanthemums in 6-inch pots.—These have done well so far this season, and are now among the most promising plants in several collections. Cuttings should be propagated during the latter days of February and early March. These plants are each carrying one large, plump bud, which in some of the easily-grown sorts is developing kindly, and there is little doubt a handsome display will be seen during October. The same varieties propagated a month later are equally promising for a November display and should be serviceable for grouping, as well as for providing fine individual blooms for exhibition. This method of culture has much to commend it, as the season of growth is comparatively short, and far less trouble is experienced in raising a batch of plants.—D. B. C.

DESTROYERS.

WASPS AND THEIR DESTRUCTION.

THE prolonged drought, associated as it has been with great tropical heat, has been altogether in favour of wasps, their nesting, and destructive work among choice fruits, both in the open and under glass. Hereabouts there appeared so few queens in the spring and early summer that a prospect of immunity seemed almost assured, or, at any rate, it was hoped their numbers would be such that much less mischief would be done with a corresponding decrease of anxiety on the part of those having charge of fruit either in small or large quantities. Such hopes, however, became in my case ruthlessly shattered, for never were wasps more numerous, notwithstanding that their nests to the number of sixty or seventy have been taken within a mile radius.

It is remarkable how deeply these pests have burrowed this year, many nests having been dug out at a foot to 18 inches below the surface. Some, too, were of extraordinary size, much larger, in fact, than a football, from which it might be inferred they were very strong, and the havoc committed really serious. Morello Cherries were first attacked, particularly some on a west wall and early ripened, because of the position being a warm and sunny one. Dessert Cherries on an east aspect curiously enough escaped their attention, and I was enabled to get an occasional dish off one tree from the beginning till the end of August—an experience quite unknown in any previous year. Plums, which are always in request with the wasp, were visited some time before they were ripe or even commencing to soften, and the same applies to Peaches and Nectarines on the open wall and indoors. The latter is quite a new experience here; in other

years, when numerous and active outdoors, they were, strangely enough, absent among indoor Peaches and Nectarines. They have not discriminated between ripe and unripened Grapes this season, contrary to their usual custom. In one range of small vineries Grapes were fully ripe in early June in one division, in another they were not ready until the middle of August, and yet the latter were chosen in preference, and but for frequent applications of Scott's and Davis's destroyers the crop would have been absolutely cleared. Speaking of the latter remedies, I am inclined to the opinion that the quality or constituent parts are not strictly uniform. I have come to this conclusion since its deterrent action is so infinitely inferior to what it used to be a few years since. A closely observant friend of mine once remarked to me that one bottle, ordered with his seeds in the early months of the year, was an absolute safeguard against loss, for, by applying the poison by the aid of a pointed stick to the fruit when first attacked, the wasps would immediately hasten away and for some days would avoid trees thus treated, and but little effort was needed to prevent their interfering again. For vineries I have in former years found these destroyers absolutely safe against attack, and muslin guards over the open ventilators were quite unnecessary. Not so now, for the combination of muslin and destroyer of either manufacture is not proof against their entry. If there is no difference made in the preparation, what accounts for the uncertain action? That there is possessed by it a strong poison, probably arsenic, is proved by the death of a few which venture to imbibe the tasty but treacherous drops measured by such infinitesimal quantity. It is decidedly regrettable that its action should be so uncertain, or at least fail to act up to what is expected and guaranteed by the vendors. It is only by repeated and frequent applications that any good can be done at all, and then the cry is raised, Still they come. In the garden Apples and Pears are similarly attacked, Pears in particular. After the endeavour to save a light crop of Beurré d'Amanlis by repeated applications of both kinds, the only alternative remained to gather and remove the Pears to the fruit room, and this in spite of the fact that they were not ripe enough even to gather. There was, too, a quantity of other Pears, and of Williams' Bon Chrétien in particular, which one would reasonably expect wasps to choose first.

DESTROYING THE NESTS.

The first and most important attack one can bring to bear on wasps is unmistakably at the nest, but in a district where fruits are widely and universally cultivated in the garden and orchard of the cottage, mansion and farm their increase is certainly encouraged. At some local flower shows prizes are given, and very wisely too, for the largest number of queen wasps, and it would be well if private individuals could take up the matter in the same way. Where it is carried out, much less trouble is caused from their visits in late summer, or, as I have so often noted, from the early Plum season until all Pears and Apples are stored. Early summer fruits, fortunately, are exempt from their interference, and there are districts and gardens, even in a year such as the present, where no trouble is known from wasp attacks. For destroying the nests, nothing I have tried is so quickly effective or so simple as cyanide of potassium. Needless to say, this is a deadly poison, and should be used with caution, but with ordinary care no one need have any fear. The great advantage

of this is that it can be applied much more effectively during the day, and thus the old-fashioned or tedious ceremony of burning them out at night is altogether dispensed with. Very strong nests, however, require sometimes a second application of the liquid; the dead and dying insects apparently, when so numerous, stifle down the fumes or vapour, which to them is so destructive. It is useless to visit a nest, apply a dose of cyanide, and then leave it, hoping that its destruction is assured, even if all the wasps on the wing pass in and remain in the nest. To those who have watched their progress, it is well known that those in the maggot stage hatch and re-establish the nest in a surprisingly short time. To obviate this, one must visit the nest with a spade only a few hours after the solution is applied, dig it out and beat it into a paste. Sometimes, when to outward appearance all is quiet, a quantity of winged and living wasps are disturbed in the course of digging out the nest. I have found a pot of water quickly thrown on them greatly facilitate their end. The cyanide supplied to me in ½-lb. or 1-lb. bottles is in lumps, which is easily dissolved in warm water, and I find it better to mix only as much as can be used at once, because the loss by evaporation is such that the solution is rendered almost valueless in a day or two. It should both in a dry and liquid state be carefully sealed against air. Two or three lumps, according to size, suffice for a pint of water, and a tablespoonful poured well into the entrance soon commits havoc among the inmates and those passing in. Nests are most easily found when the sun shines, because wasps are then traced for some distance on the wing, and the direction of their nests can be often ascertained by noting the course taken on leaving the fruit trees. Bottles filled with sugar and beer, or honey and water, attract and destroy a quantity of wasps and the large blue-bottle flies, which, when in quantity, are almost equally as destructive. This perhaps is the only means of trapping the flies in question, and it is surprising the quantity collected in large sweet bottles when partly filled with a tempting mixture.

Rood Ashton, Wilts.

W. STRUGNELL.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

FROM the trial grounds of the Royal Horticultural Society Gardens, Chiswick, several varieties of Onions and Potatoes, also one of Beet, were sent to the last fortnightly meeting. These had been previously approved by the fruit and vegetable committee, which met there on the 30th of last month, and were brought up to be duly confirmed. Onions were exhibited both as spring and autumn sown in each variety, this being a very good test. Below are given the names and description, all receiving awards of merit:—

ONION BOXOLD'S BANBURY CROSS.—A large, flattish-round Onion. From Messrs. J. Nutting and Sons, Southwark Street.

ONION WROXTON.—A fine round Onion, good both in spring and autumn. From Messrs. Watkins and Simpson, Exeter Street, Strand.

ONION ROUSHAM PARK.—Also good, both as spring and autumn. From Messrs. Watkins and Simpson.

ONION NUNEHAM PARK.—A good white Spanish variety, well known. From Messrs. J. Nutting and Sons.

ONION HURST'S BANBURY CROSS.—Large and firm, a good main-crop kind. From Hurst and Sons, Houndsditch.

POTATO THE MAJOR.—A white, half-long kidney. From Mr. E. Webber, Worcester.

POTATO MISS ELLEN TERRY.—A round white form; a great cropper. From Mr. E. F. Blinco, Haddon Villas, Hucknall Torkard.

POTATO FISHTOFT SEEDLING.—A fine white kidney potato, large, and an excellent cropper. Messrs. Johnson and Son, Boston.

POTATO CHALLENGE.—A heavy cropper, tubers white, flattish round in shape. Mr. R. Sydenham, Tenby Street, Birmingham.

POTATO DEVONIAN.—White kidney of medium size, of superior flavour, and with a thin skin. Mr. O. Thomas, Windsor.

POTATO FOO.—An excellent kidney variety from the Canary Isles. Mr. J. Wright, Wandsworth.

POTATO FIDLER'S QUEEN.—Another good variety both in shape and flavour. Messrs. Fidler and Sons, Reading.

BET RED GLOBE.—This is a fine deep-coloured form of the Egyptian Round. From Messrs. Watkins and Simpson, Strand.

NEW DAHLIAS AT THE CRYSTAL PALACE.

Of the show and fancy types but very few new varieties were staged, and but two certificates of merit were awarded, viz., to

DAHLIA DAVID JOHNSON.—A well-formed self show variety, good in petal and shape, and highly promising; the colour salmon, the reverse of the petals flushed and pencilled with delicate purple. This came from Mr. Geo. Humphries, Chippenham. The other certificate was given to

DAHLIA WATCHMAN.—Yellow, flaked and pencilled with deep crimson, and though in its colour and markings like one or two already in cultivation, yet quite distinct, and a valuable addition to this section. It came from Messrs. Keynes, Williams, and Co., Salisbury.

The additions to and improvements in the true Cactus varieties go forward by leaps and bounds. All the fears originally expressed that with cultivation the distinctive character of *D. Juarezii* would become lost have, happily, been falsified; it has become both intensified and refined, and concurrently appears a decided and much-needed improvement in the habit of the plants, as they are more free-flowering and throw their blooms well above the foliage. Some of our choicest varieties fail in these respects, but there is reason to hope their progeny will show manifest improvement. A large number of seedlings was staged at the Crystal Palace, and of these the following obtained certificates of merit:—

DAHLIA MAGNIFICENT.—The ground cream, suffused with delicate salmon-pink, a singularly beautiful and distinct variety, with, it is said, a most desirable habit of growth. From Mr. J. Strudwick, Silverhill, St. Leonards-on-Sea.

DAHLIA MRS. HOLFORD.—Bright scarlet in colour, a small-flowered or pompon variety of true Cactus shape, and which, judging from the sample sent, is very free and throws its blooms well above the leaves. It was recognised as a garden variety for decorative purposes. Messrs. Keynes, Williams and Co.

DAHLIA COUNTESS OF LONSDALE.—Orange-salmon, the tips of the petals suffused with delicate purple: one of those exquisite salmon shades so much valued for decoration. Messrs. Keynes, Williams and Co.

DAHLIA CLOWN.—A singularly novel variety, the deeply-fluted petals very pale orange-red, distinctly tipped with white. This is in the way of *Arachne*, but larger and bolder in all its parts, and makes a fine and striking bunch for exhibition. Messrs. Keynes, Williams, and Co.

DAHLIA LUCIUS.—Bright salmon-scarlet, suffused with orange; a variety of great refinement and distinction. It was selected as the best new Cactus Dahlia in the entire exhibition. Messrs. J. Burrell and Co., Cambridge.

DAHLIA ANTELOPE.—A bright cerise-scarlet flower, with a flush of orange in it; in the way of *Fantasy*, a type which exhibitors are seeking to improve and extend. From Messrs. J. Burrell and Co., Cambridge.

DAHLIA CLARIBEL (Pompon).—Cream, tipped with crimson-purple; a distinct and attractive variety of fine shape and quality, medium size, and quite compact. From Mr. Charles Turner, Royal Nursery, Slough.

DAHLIA SNOWFLAKE (Pompon).—A highly refined pure white variety of medium size and perfect symmetry. From Mr. M. V. Seale, Sevenoaks.

DAHLIA LESLIE SEALE (Single).—This has a dark crimson ring round the eye and a margin of pale lilac, distinct and attractive. From Mr. Seale.

DAHLIA ERIC (Single).—Orange, with deep edge of salmon flushed with delicate mauve; a finely-formed variety. From Mr. T. W. Girdlestone, Sunningdale.

Dahlias at the Aquarium.—At the Dahlia exhibition at the Royal Aquarium, on the 6th inst., a representative jury of exhibitors and growers awarded certificates of merit to the following:—Cactus Dahlia Magnificent (J. Strudwick); Cactus Ranji, shown in very fine character (G. Humphries); Cactus The Clown, Viscountess Sherbrooke, and Countess of Lonsdale (Keynes and Co.); pompon Dahlia Madeline (C. Turner); show Dahlia David Johnson (G. Humphries); pompon Dahlia The Duke (Keynes and Co.); single Dahlias Columbine, Louise, and Tommy (T. W. Girdlestone); pompon Dahlias Snowflake, Distinction, and The Demon, and single Leslie Seale (M. V. Seale); and Cactus Dahlias Lucius and Antelope (J. Burrell and Co.).

United Horticultural Benefit and Provident Society.—The annual dinner of this society will take place at the Holborn Restaurant on Wednesday, October 5, at 6.30 p.m. Mr. George Bunyard, of Maidstone, has kindly consented to preside.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, September 20th, in the Drill Hall, James Street, Westminster, from 1 p.m. to 5 p.m. A lecture on "Fruit Growing in Suburban Gardens" will be given at 3 o'clock by Mr. W. Roupell, F.R.H.S.

NOTES OF THE WEEK.

Spiraea tomentosa alba.—I send you flowers of the new *Spiraea tomentosa alba*, a very distinct shrub.—T. SMITH.

*** This is a very good as well as a distinct shrub.—ED.

Dracena Duchess of York.—While this new-comer cannot boast of the brilliant colouring of many members of this family, it certainly possesses a grace and beauty that will render it welcome in many ways, though more particularly, perhaps, as a table plant. Thus employed, the narrow, gracefully recurving leaves will produce a very desirable effect.

Cytisus nigricans.—Among late-flowering shrubs this yellow Broom should not be forgotten. It is especially valuable to brighten up at this season beds or borders in which evergreen shrubs are largely grown. I saw *C. nigricans* the other day in a bed in which was a quantity of *Rhododendrons*, and the bright sprays of yellow flowers were very pleasing and helped to lighten up the bed.—S. ARNOT.

Solanum pensile is a very beautiful stove climber from South America, quite free, though not excessive or rampant in growth, and producing numerous drooping clusters of flowers of a violet-mauve shade. The blossoms individually are not large, but in the free manner of their production have a decided and pretty effect, the clusters of flowers drooping very considerably. Plants of this were flowering freely in the aquatic stove at Kew recently.

Primula obconica.—Some very compact and freely-flowered examples of this species may now be seen in the greenhouse at Kew, where in small pots the plants are arranged in masses on the side stages, where the grouping becomes quite effective. In large batches such as this considerable variation may be noticed in the seedlings, and these doubtless in time

and by further development will form the basis of an improved strain of this very useful flowering Primrose.

Begonia coccinea.—This is a very useful and free-flowering species, that when required will cover a considerable space with its abundant succulent growth and blossoms. These latter are small and of the old type. Yet such plants in certain positions in the greenhouse possess an undoubted value more from the standpoint of a floral screen perhaps than aught else. It requires space for its rather numerous branches, and with these well developed comes a most abundant flowering.

Rudbeckia purpurea is now one of the finest of border perennials, and very showy withal by reason of its distinctly coloured heads. Few summer-flowering plants are more suited to grouping freely in the garden, and few, indeed, are capable of producing so fine a display of colour. Not only is it good and distinct in colour, but the habit of the plant leaves nothing to be desired, its strong self-supporting nature rendering sticks quite unnecessary unless in much exposed places.

Meadow Saffrons.—These pretty harbingers of early autumn are now fast pushing into flower in grassy places and other spots where they have been planted. In no place do they appear to so much advantage as when pushing up their lilac-rose buds in the short fresh green grass, that more than compensates for the natural bareness of their appearance. Quite a large number may be seen so planted and now flowering at Kew, not all in one place happily, but disposed hither and thither.

Belladonna Lilies.—The Belladonna Lilies are now among the gayest of bulbous flowering plants, the bulbs, where these are strong and well established, throwing up quite a profusion of flower spikes and large, handsome blossoms in a charming variety of shades that cannot fail to produce a rich display. All that is needed to succeed with these things is a deeply-prepared bed of sandy soil or peat and loam in equal parts and some old mortar rubble intermixed. This and a comparatively dry and warm position usually suit them admirably.

Yellow ground Carnation Cowslip.—This is one of the best. Just now I am gathering the most perfect blooms from it. Certainly no other variety comes near it as an all-round useful variety. I shall layer every shoot of it. This autumn flowering would lead one to believe it would make a good pot Carnation. Those I am writing of were planted out last October, and have stood the last winter better than many. The growth is strong and sturdy, the flowers perfect, and do not burst.—J. TAYLOR, Hardwicke Grange, Shrewsbury.

Begonia echinoccephala.—Some well-grown examples of this handsome and free-flowering species have been for some time past in bloom in the greenhouse at Kew. The plants in question are some 6 feet high and are bearing numerous trusses of the pinkish white flowers, the latter heavily studded externally with bristle-like hairs. This fine species, although a great attraction in large plants such as this, may be flowered quite well in small pots, and in this way prove of considerable service. In the large conservatory a few plants of this attractive species are ever welcome.

Zauschneria californica.—Just now this is one of the brightest and most attractive plants in my garden. The scorching sunshine of the last few weeks seems to have suited it admirably, for while other border plants have been drooping under the influence of the phenomenal heat, this has retained its freshness and makes a welcome spot of vermillion colour which catches the eye at once. It is growing in a south border, under the shelter of a dwarf wall, exposed to the full power of the sun's rays, and appears perfectly happy in its surroundings. It is exceedingly useful for cutting.—A. E. GIBBS, *Acacia House, St. Albans*.

Colchicum Bornmulleri.—Bornmuller's Meadow Saffron is the largest and most effective of the *Colchicums* with which I am acquainted, surpassing in size the fine *C. speciosum maximum*. It is a very reliable plant here, and since I first purchased it a few years ago it has increased rapidly. The flowers are very pale in colour when they open, but afterwards deepen rapidly until they become deep purple, with a broad white zone at the base of the interior. A clump of this *Colchicum* is very pleasing, showing the various stages of colouring, passing from ivory-white and ivory-white flushed rose to deep

purple. The leaves in summer are very handsome.—S. ARNOTT, *Canethorn, by Dumfries, N.B.*

Bamboos flowering out of doors.—It may interest your readers to know that the rare event of a Bamboo flowering in the British Isles is at present occurring. *Arundinaria auricoma* is flowering at Castlewella, in Ireland, and at Batsford, in Gloucestershire. It is probably showing flower wherever it is grown, and it will be important that those in whose gardens it grows should note—1, any exceptions to its flowering; 2, whether the plants die after seeding; and 3, whether the seed ripens and germinates.—A. B. F. MITFORD.

* * This same Bamboo is also flowering at Kew, as will be seen by a note in the present issue (p. 214).—ED.

Macrotomia (Arnebia) echioides.—The few sprays of blossom that make this excellent plant gay at the present time are, perhaps, more welcome than its fuller complement of spring flowers when there is so much of interest and beauty daily coming into bloom. Just now, however, flowering alpine or rock plants are scarce, the most profuse among all being a few Campanulas, such as *C. garganica* and others. In the midst of this dearth, the sulphury and yellow blossoms, with the black spots very prominent here and fast fading there, always make this an interesting subject, and as such and of easy culture it is worth growing freely.

Desmodium canadense.—This hardy herbaceous plant is not much grown, I fancy, except in botanic gardens, but it deserves a word of commendation. It throws up stems 4 feet or 5 feet in height, clothed with rather large ternate leaves, and bears terminal spikes of small rosy purple flowers. It is worth growing in suitable situations if only for the fresh bright green of its foliage. I raised it several years ago from seed supplied by Mr. Thompson, of Ipswich, and it has made itself quite at home in a London garden. It is extremely hardy, flourishes in any soil, and even the exceptional heat and drought of the past few weeks have had but little effect upon it.—R. C., *Kensington*.

Enothera macrocarpa.—Has any reader of THE GARDEN adopted the experiment of pinching or otherwise stopping the shoots of this showy plant with a view to getting a later bloom? If not, it is worth doing in those gardens where a late display of such things is valued; or, again, when a prolonged succession of flower is looked for. All that is needed is to remove the point of the growth in the early stages; a few may be so treated a second time. A similar plan may be adopted with spring-struck cuttings, removing the tip of the shoot as soon as the young plants are potted and have taken to the fresh soil. Few plants are so showy as this Evening Primrose, and such things are worth retaining in our gardens to the fullest possible extent.

Salvia splendens grandiflora.—A superb display of this brilliant plant may now be seen at Gunnersbury House, the residence of Mr. Leopold de Rothschild. The plants, which are growing in 10-inch or 11-inch pots, are close upon 4 feet in height, and are a blaze of colour. Mr. Hudson has arranged the whole of the plants on the floor in one of the new spacious fruit forcing houses in these gardens, which, taken all in all, are models of lightness and simplicity combined. There are about 100 of these *Salvias* of exceptional vigour, freely branched and densely furnished with the vermilion-scarlet flowers. It is worthy of remark that so brilliant a colour should have borne the recent great heat with impunity, the blossoms individually lasting a long time in good condition.

Helianthus Miss Mellish.—This Sunflower is, I think, unusually fine with me this year. The long spell of dry weather we had in summer appears to have suited it well. The flowers are large and brilliant in colour and the longer the plants become established the more vigorous do they seem to become. It is perhaps hardly fair to so fine a plant to indicate a fault, but it has one, and that is its rapid spread at the roots by means of underground runners. This rapid

increase is also a merit, as it is when seen in quantity that it is most effective. One occasionally sees in gardens that other and inferior Sunflowers have been substituted for the true plant. H. Miss Mellish was originally found in a garden by Mr. Joseph Mallender, head gardener to Miss Mellish, of Hodsock Priory, and was named in honour of that lady.—S. ARNOTT.

Passiflora Constance Elliott in Kirkcudbright.—On the garden front of Orchardton, Castle Douglas, N.B., the seat of Mr. W. D. Robinson-Douglas, is a fine plant of *Passiflora Constance Elliott*. Last week it was blooming profusely, although many of the earlier blooms were over. Since the memorable winter of 1894-95 it has suffered little in winter, and seeing that it survived the almost arctic season referred to, it is likely that this charming white Passion Flower will live for many years. This is interesting, as, so far as I am aware, there is not a similar example in the S.E. of Kirkcudbrightshire. The climate at Orchardton is mild in winter from its proximity to the Solway Firth, and Mr. Robinson-Douglas's success with *Passiflora Constance Elliott* and other choice shrubs shows how well adapted a great part of the west of Scotland is for testing reputedly tender plants.—S. ARNOTT.

Tricuspidaria hexapetala in the south of Scotland.—Some of us have recently written in praise of this distinct plant in THE GARDEN, and some have been surprised to hear of its success with Mr. Osgood H. Mackenzie at Inverewe, in Ross-shire. Judging from several most interesting letters I have had from Mr. Mackenzie, he can successfully grow on his gravelly soil plants we fail with in the south of Scotland. Although I had resolved to try *Tricuspidaria hexapetala* (*Crinodendron Hookeri* of some) in my garden, it was with considerable hesitation. It was with pleasure, therefore, that I saw it this month in the rock garden at Orchardton, in S.E. Kirkcudbrightshire. Its normal blooming season is long past, but two flowers were nearly fully open and a large number of buds were also formed. The buds appear to form early for the succeeding season, and the difficulty experienced in some districts in flowering the *Tricuspidaria* seems to arise from these buds being injured during winter. At Orchardton *T. hexapetala* is not grown on a wall, but as a bush in the rock garden. Here, from its being on an elevated position, one can see the flowers well. From the way in which this plant thrives here, one may hope it will prove amenable to cultivation in more gardens than could be expected from its Chilean origin, although we have a considerable number of hardy plants from that region.—S. ARNOTT.

Two good Kniphofias.—*Kniphofia Pfizeri* is one of the most useful of the Torch Lilies, its sturdy spikes of a bright orange scarlet colour standing well above the plants by which it is surrounded. With me it proves to be a vigorous grower, and apparently appreciates the liberal dressing of well-rotted manure which it gets each spring and autumn. I have noticed that Mr. Maurice Prichard, of Christchurch, usually shows some very fine spikes of this plant in his exhibits at the various flower shows, and it is to him I am indebted for the introduction of this plant into my garden. Another good *Kniphofia* is *K. Macowani*, the coral-red spikes of which are of a most pleasing tint, making it a great favourite of mine. Unfortunately, my plant was accidentally disturbed in the spring, and will not bloom so freely as usual this year in consequence. These two varieties should be in every collection. While speaking of *Kniphofias* it is worthy of mention that a plant of the ordinary *K. Uvaria* growing in a north border has this year thrown up as many as seventeen flower-spikes.—A. E. GIBBS, *St. Albans*.

* * When recently at Saltwood Castle, near Hythe, we noticed on the grass a very handsome plant of *K. Uvaria* which was throwing up a profusion of its handsome spikes. At the same place a plant of *Vitis inconstans* on the walls of the castle was a blaze of rich colour. Thus seen in its

mantle of scarlet it is one of the most beautiful plants that one can grow for covering bare walls. It was planted in the grass and the position seemed to suit it in every way.—ED.

M. Nabonnand.—The French Society of Rose Growers, at their congress held at Lyons on the 2nd of this month, conferred by vote the medal of the society, given to the Rose grower who has rendered the greatest service to Rose culture, to Monsieur Nabonnand, sen. (Père), of Golfe Juan, Alpes Maritimes. M. Nabonnand is the raiser of some Roses—such as *G. Nabonnand*—that to English growers will seem better than many medal kinds.

Fungus on grass.—Enclosed I send you some blades of grass covered with some golden-coloured fungus or something, my attention being called to it by a lady walking on the grass having her shoes covered with what looked like gold dust, and on my examining the grass I found it covered with it. I previously thought it had gone yellow from want of rain. This grass was sown about last May, and was put in very thickly. I shall be obliged if you can let me know the name of the disease, also a remedy.—THOMAS MAY.

* * Your grass is infested with one of the corn or grass rusts, probably *Trichobasis rubigo vera*. As regards a remedy, I do not think there is much to be done. Watering lightly with Bordeaux mixture might be useful, but I doubt if it would be worth while to use. I do not imagine the grass will really suffer.—G. S.

The weather in West Herts.—Another remarkably hot week. On the 8th the shade temperature rose to 90°, which is 8° higher than any similar reading in September during the preceding twelve years, and 6° higher than any temperature recorded during either of the summer months this year. In fact, only once before in the past thirteen years has 90° been reached or exceeded at any period of the year. The previous night was also extremely warm, the temperature in the thermometer screen never falling lower than 61°, which is the highest minimum reading in September for twelve years. The ground during the week has been even more exceptionally warm than the air, the highest readings at 2 feet and 1 foot deep being respectively 67° and 72°; whereas the previous highest temperatures recorded in September have been for these depths 64° and 69°. On the hottest day (the 8th) the difference between the readings of an ordinary thermometer and one with its bulb kept constantly moist amounted to as much as 22° at 3 o'clock in the afternoon. In no previous September has the air been so dry as indicated by this difference in the readings of these two thermometers. No rain has now fallen for over a fortnight, and no rain-water whatever has come through either percolation gauge for twelve days. The sun shone on an average for over 7 hours a day, the average for a September day being about 4½ hours.—E. M., *Berkhamsted*.

Hale Farm Nurseries, Tottenham.—We are asked to state that the above business has now been acquired by Mr. J. H. Osborne. It is intended as soon as possible to form the business into a limited company under the style of "Thomas S. Ware, Ltd."

Recreation ground for Swanley.—Sir William Hart Dyke, M.P., has notified his intention to hand over as a gift nine acres of land adjoining Swanley Junction Station, to be used as a recreation ground by the people of Swanley Junction and the neighbourhood.

A new white Everlasting Pea.—Will anyone tell me what is the correct name of the fine new white Pea shown at a recent meeting of the Royal Horticultural Society? It is so described that it may either be *Lathyrus grandiflorus albus*, which would be a splendid new thing, or *Lathyrus latifolius albus* var. *grandiflorus*, which I strongly suspect is the plant meant.—H. E. W.

Name of plant.—J. M. K.—*Saporaria officinalis* fl.-pl.

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ORCHARD AND FRUIT GARDEN.

FRUIT BLOSSOM AND CROPS.

THE meagreness of our hardy fruit crops this year throughout the country is attributed to various causes by different growers. Some imagine that the late spring frosts are to blame, others that the cold, cutting winds, prevalent during the flowering period, are accountable for the mischief, while not a few remark on the alternate crops and failures occasioned by exhausted soil and the feeble vitality of the trees. All of these causes no doubt contributed in some degree to the failures or partial failures met with in different localities. The influence of frost on the flowers was next to nil in some neighbourhoods, whilst, perhaps, in colder and more moist situations its injurious effect would be manifested. The cold, cutting winds were, however, pretty evenly measured out to all in the island, and the bruising and otherwise damaging of the flowers, as well as the robbing them of their moisture, may be credited to their evil agency. With feeble health—a bad circulation—the badly nurtured trees would be in sorry plight to meet the excessive demand made upon them in the way of moisture, to supply the needs of the enormous wealth of bloom they were struggling to perfect. The neglected trees that only carry a crop about every second or third year are the ones which yield to inclement atmospheric forces the most readily. The exceptional amount of blossom, too, that the plants were bearing would materially aid in exhausting them of their manufactured or digested food, and be the means of still further impairing health and vitality. Besides the waste of the plants' food, occasioned by allowing the enormous quantity of useless blossom to develop, there is the excessive drain on the sap supply to be considered in relation to the well-being of the trees and crops. At this early time of the year the soil is cold and young roots are few, old ones are not active, and it is questionable if

the plant can supply the flowers with sufficient moisture to enable them, under favourable circumstances, to mature and set, even were the tree able to furnish the food-materials necessary for them to do so. In the absence of sufficient moisture to meet the demands of flowers and atmosphere, imperfect and weakened blossoms would be the result. This, combined with the complete exhaustion of the stored food of the previous year and the crippled health of the trees, renders the chances of a crop smaller. For, even although a fairly good set were secured, the vitality of the plant would be so weakened that the newly-formed fruits would drop off from want of support. The enormous wealth of blossom, then, looked at from this point of view, would be detrimental to the welfare of our fruit trees in feeble health. To remedy these evil effects we would either have to improve the health—circulation—or reduce the amount of work of the plant. The former can, in most cases, be accomplished by feeding, and the latter by thinning the buds. By the thinning of the flower-buds of old and not too robust Peach and Nectarine trees I have secured better health in the plants, and consequently heavier crops of much finer fruit than formerly obtained. By this process of conserving the plants' energy and concentrating it into a limited number of channels, we might be able to enhance the chances of our hardy fruit crops. Of course, with large standard trees of Apples, Pears, Plums, and Cherries, the operation of thinning the flower-buds would be a rather big undertaking, but with wall trees and those in bush and pyramidal forms on dwarfing stocks it would be a simple matter. It should only, however, be plants with impaired health that should be treated in this manner. Strong, vigorous ones, on the other hand, are benefited by being allowed to carry all their bloom, which, by the way, is usually sparsely distributed over the trees. Again, the thinning of the buds should not be uniform with all plants, but rather regulated to be in keeping with the vitality of each, thinning most

severely the trees with the weakest constitutions.

J. RIDDELL.

DRIED-UP ORCHARDS.

EVEN in the good fruit counties one may often see orchards starved from want of water, and the turf almost brown as the desert. That is the result of neglect in our dry summers. Where manure is plentiful it is well to use it as a mulch for such trees, but we write in the hope of calling attention to the unused materials at hand for keeping the roots of such trees safe from the effects of drought. Not only the tree roots want the water, but the roots of the grass, which is very apt to suck all the moisture out of the soil. The competition of the grass could be put an end to at once and the trees very much nourished by the use of a simple and easily found mulching from materials which are often plentiful and even sometimes do harm in a country place. Among the best of these, where plentiful, is the common Furze, if cut down in spring and placed over the ground round the base of the orchard trees. It would, in this way, prevent the grass from robbing the trees and let the water fall through the ground, helping to keep it there, too, by preventing direct evaporation; moreover, the small leaves falling off nourish the ground. So again the sweepings of drives and of the farm or garden yards are useful, and also any small faggots which are often allowed to rot in the woods after the underwood is cleared. They fetch such a low price that they are not worth selling, but such faggots if placed round the roots of fruit trees often do good. Then also there are the weeds and refuse of gardens of all kinds which form detestable rubbish heaps, that would be much better abolished, and all cleanings from the garden placed directly over the roots of orchard trees. There is so often an orchard near the garden, that this would generally be a handy way of getting rid of green rubbish, and if spread for a few feet on all sides about a tree would not only keep the grass in check, but the accumulation of such spare stuff year by year would promote healthy growth and good crops.

Even rank weeds, that swarm about yards and shrubberies, would help. We are often asked how to get rid of rank weeds of this sort, and one

of the best ways to weaken them and help towards their destruction is by mowing them down in the pride of their growth in the middle of summer—Nettles and Docks, as the case may be, and instead of burning them or taking them to the rubbish heap use them over the tree roots. Even the weeds growing round the base of the trees, if cut down and left on the ground, and at the same time some of the grass near thrown with them, will make a great difference in the growth and health of fruit trees.—*Field.*

Fruit growing in Germany.—Wurtemberg grows more fruit than any other part of Germany. It contains over seven millions of fruit trees, which produce 60,000 tons of fruit, valued at £300,000. Notwithstanding this abundant produce, the Kingdom imports heavily, particularly Apples, which are converted into cider. In 1891 this importation was valued at £350,000. Throughout Southern Germany the culture of fruit is practised along with heavy agriculture, so that one commonly meets with fruit trees among the cornfields and meadows, as along the high roads. But in Northern and Central Germany this is not tolerated, and fruit is confined to the orchards and high roads. Germany exported in 1891 fresh fruit valued at £468,900, and imported Southern fruits to the value of £786,350.

NOTES AND QUESTIONS.—FRUIT.

Pine-apple Nectarine.—For flavour this Nectarine is difficult to beat. The only fault I know that it possesses is that of showing a tendency to shrivel just when ripening. Some of the best samples I have seen of it, and these were absolutely free from shrivelling, were early this month at Aldenham Park. Mr. Beckett attributes his success with this variety and its perfect freedom from shrivelling to abundance of water at the roots during the ripening stages.—E. M.

Grape Duke of Buccleuch.—Some remarkably fine specimens of this handsome Grape were to be seen in one of the vineries at Gunton Park at the end of August. The bunches were not of exceptional size, but the berries were very large, and, what is more, they had put on that colour which is so desirable in this Grape, when seen in the best possible condition. To his success Mr. Allan attributes the application of shade to the glass just previous to the commencement of colouring. Certainly the appearance of the berries warranted the treatment received.—E. M.

STOVE AND GREENHOUSE.

CULTURE OF STEPHANOTIS.

THE note by "A. W." on this plant is interesting, for, as hinted, many growers are unaware that this fine climber is much more satisfactory in a fairly cool house than a stove. It makes shorter-jointed wood, flowers more freely, and keeps more free of insects than when given a lot of heat. Atmospheric moisture is necessary, but the house must not be over-heated. In the west of England I used to have under my charge a large plant that was trained over the roof of a span-roofed structure wherein Maiden-hair Ferns were grown for cutting. It covered the entire roof, the house being about 20 feet long by 10 feet wide. At that time the demand for cut Fern fronds in a deep green state was large, and consequently abundance of air night and day was allowed, the temperature at night in summer rarely exceeding 50°. The Stephanotis was planted in a brick pit, and only got one cleaning each year, while, owing to the Ferns being beneath it, the syringe could not be used so freely as was desirable. But the hard, solid shoots had always a bunch of flower at each joint, and very little mealy bug was present. Again, many growers use far too rich a soil for the plant. Good fibrous loam and peat in equal proportions, with a little dried cow manure rubbed up finely makes a good basis, and if a few lumps of charcoal are added this allows of the compost being rammed fairly firmly in the pots, this being conducive to

hard growth and thick leaves. This may seem rather a poor compost, but the flowers will set up much better in it than in a richer one, while it is easy to feed the plants a little while the flowers are forming. The roots are fairly strong and vigorous, yet they are easily damaged by over-watering, and this is an argument for pot culture rather than planting out. The roots are more under control, the air plays more freely about them, and they live longer. When the plants have filled all the available space annual pruning is necessary; it is wise even in the younger stages to take a little of the older wood out after flowering, but it is imperative with large, old plants. If left, the wood gets very thick in places, while much of the older growth will become bare of leaves. The Stephanotis is easily propagated, but the long cuttings sometimes used are quite unnecessary, not to say unsuitable. The best wood to use is the short, stubby side shoots with leaves about half an inch apart. These may be inserted about an inch deep in a light sandy compost, kept very moist and close for a little while, when every cutting will root, and may soon be grown into nice little plants.—H.

The mention that has been made concerning this valued climber when given cool treatment reminds me of some capital plants I saw some years since in Cambridgeshire. These were planted out in a prepared hole beneath the path level of the floor, and the arrangements were such that only on very sharp nights was any heat turned on at all. The plants were trained to a brick wall, the house facing north and lean-to in character, but protected on the warmer side by a house of ferns, which of course materially assisted the climber. At the same time the actual temperature within the house was often very low, and but for the fact that no water was given at all during winter, the plants would have probably perished. The plants moreover remained perfectly healthy and vigorous, and flowered abundantly each year during summer with a regularity that became proverbial. It is just on this that the value or otherwise of growing such things depends. Of course such a system may justly be described as experimental rather than cultural, when for several months of the year no attempt is made to grow the plant at all. Many plants will with impunity endure a much lower temperature than that in which they are grown. But the chief question is, are such usually profuse flowering plants profitable so grown, or the reverse? To grow a surplus plant or two in the conservatory for a special purpose is, of course, another matter, and as such may be much more freely indulged in. All the same the gardener will not follow the cool system for those plants from which he expects a fair crop of winter bloom.—E. J.

FUCHSIAS.

To those who are fond of Fuchsias I would strongly recommend the practice of raising a batch from seed every year, for seedlings make well-shaped plants which are generally very free-flowering and useful, and, though the majority of them do not carry blooms of a quality that would entitle them to general distribution, all are sufficiently beautiful to admit of their being grown for a year or two at least, while now and then one finds a real gem. Such an one was raised here three years ago, a very dwarf grower, the original plant being only now about a foot high, and very bushy. It has a small flower, no larger than that of the old *F. Riccartoni*; the sepals are a bright red, and the tiny double corolla pure white. It is wonderfully free-flowering, and appears to have most of the attributes of a good bedding Fuchsia, but I have not yet tried it in this way as it has been so useful in small pots for vase work. Using seed supplied by a reliable firm, I have from time to time raised many really good things, and a large percentage has been varieties with white corollas and bright red tubes and sepals. These, whether single or double, are generally much appreciated. I also get a great variety in habit, and find plants suitable

for any form of training—some as climbers, others as trailers or basket plants, and others again that require no training of any description except the annual pruning which all Fuchsias more or less require. Fuchsias differ greatly in their requirements, especially as regards their winter treatment, and I believe that it is due to this fact that many of the handsomest species or varieties are not more often seen. Take, for instance, that lovely hybrid *Earl of Beaconsfield*. I find that if this is dried off during the winter in the way that suits most Fuchsias the plants seldom recover, and, if they do, they are very inferior to those that are kept moist enough to never entirely lose the whole of their leaves until pruned. *F. fulgens*, one of its parents, has the same attributes, and so, too, has *F. splendens*, among species, and others among the ordinary varieties that require a little special care to prevent over-drying through the winter could be named; indeed, any of those which are prone to dying out are best treated in this way and should be kept apart from the others. It is a good plan with these difficult varieties to strike some cuttings in August or September, keeping them growing all winter. Such cuttings make capital plants the next year, and provide against losses among older stock.

J. C. TALLACK.

MANURES FOR HYACINTHS.

WHEN a Hyacinth bulb is obtained in autumn from a salesman it is understood to contain embryo leaves and flower-spike, and sufficient food material to develop both with the aid of water. This supposition is annually verified by the many thousands of bulbs grown in glasses. Knowing this, the questions arise, Are fertilisers essential in the soil of those grown in pots, and, if so, why? Looked at casually we would be inclined to think fertilisers unnecessary, and, perhaps, when normal growth and blooms are the only aims of the cultivator, this is so, but if we wish exceptional spikes and abnormally large flowers we are forced to acknowledge otherwise. Again, besides merely developing the embryo leaves and flowers of the imported bulb, it might also be desired to have a supply of flowers from the same bulb for a number of consecutive years. By thus considering the objects we have in view, we are able to facilitate the result desired. In aiming at large flower-spikes, fine individual blooms and good colour, it will in most cases be necessary to add potash and phosphorus to the soil at potting time. One shovelful of wood-ashes, or 1 lb. of sulphate of potash, and 1 lb. mineral superphosphate to every barrow-load of soil, and well mixed a month before being used, will form an excellent compost so far as plant food constituents are concerned. If there should be any want of vitality in the plants—apparent by soft, flabby leaves, or the leaves curled over at their edges—then assistance will be indispensable in the form of a nitrogenous manure. The best form in which this can be supplied is nitrate of soda, at the rate of half an ounce to two gallons of water. Of course, nitrate of soda should be used with discriminating intelligence, for an excess will have a tendency to the production of large, soft leaves and a deficiency in the colouring of the flowers. But being a manure that can be withheld and applied at will—not remaining long in the soil—growth can be so regulated that all excesses can be guarded against by its rational use. Should the aim of the grower be to cultivate the Hyacinth bulb for a number of years, and have an annual crop of flowers from it, the leaves ought to be encouraged immediately the flower-spike is fully developed. This is done by increasing the available nitrogen in the soil. With a fortnight's treatment of an increased strength of nitrate of soda, a top-dressing of mineral superphosphate should be given, but only a light one. Repeat the application of phosphate every ten days, till the leaves show signs of ripening. This will enable the bulb to form another crop of leaves and flower, and lay up a store of food sufficient

for their normal development. Treated in this manner *re* manures, the same Hyacinth bulb continues to annually yield good spikes of large, well-coloured flowers, and proves that, even although cheap, it might be economy in some instances to grow the bulbs at home. J. RIDDELL.

TUBEROSES.

THESE sweetly-scented flowers are always in brisk demand, and although the plants when in flower are rather lanky in appearance, they do well for grouping. The culture is simple in the extreme, and yet even when good bulbs are procured they are often a failure at the hands of amateur growers. It may be conceded at the first that without well-ripened and heavy bulbs no culture, however good, will produce satisfactory results. When received, the bulbs must be thinly spread out in a cool, dry store, especially if they have to be kept for late work. The earliest batch should be potted in a size only just large enough to take them easily and allow of a little fine soil being placed around them—this because it will be necessary to push them into growth almost at once. It is usually the least satisfactory lot. Placed over a moderate heat the top growth soon begins to show, and the young leaves may grow about 4 inches high before giving a shift into 5-inch pots, these being quite large enough for forced bulbs. The roots will probably not have made much progress. If they have, so much the better, of course, as the spikes will ultimately be stronger. Water sparingly at the root and keep the atmosphere very moist and warm. For those required later, a better plan is to pot at once into the flowering size and stand the pots in a cool, dry house or shed, watering them once, allowing them to get a little dry, and then covering the pots with ashes. A single potting may be made to supply plants for forcing over a considerable season, as they may be drawn out as required and will be making root in the meantime. The latest batch must be kept out of the soil as long as possible, and when seen to be starting to grow, potted and brought on as slowly as possible in a cool house. In every case it is of the utmost importance that the atmosphere is kept moist and the plants looked over for insects occasionally. It is best to keep them out of fruit houses if possible, for no plant that is grown is more liable to be infested by red spider. This pest is doubtless imported with the bulbs in many cases, and is sure to attack the young foliage. If not taken in hand at once it will rapidly overrun the entire plant and prove an intolerable nuisance in the houses. I have tried sulphur on the bulbs before potting, but with no effect. The only thing to be done is to prevent the pest from spreading when it is first noticed; this is done by frequently syringing the plants with soft water and vaporising the house as often as convenient. The foliage is so tender that sponging, unless very carefully done, leads to damage.

The bulbs are usually furnished with a lot of small offsets, and these should be picked or cut off before potting, as if left they grow up all around the main stem and rob it of nutriment, often to the extent of preventing the main stem from developing, when the plant is, of course, useless. Owing to the amount of water the plants require, drainage should have special attention, and the crocks may be covered with a little rough leaf mould, Moss, or other material. They grow freely enough in a mixture of light sandy loam, well-decayed horse manure, and leaf-mould, with a good sprinkling of silver sand. A little of the sand may with advantage be placed around the base of the bulbs, and the soil should be finished with the top of the latter well out of it. For indoor decoration and grouping in the conservatory, it is often an advantage to have plants in the smallest possible sized pots. The spikes will not be so fine in these, but they will be very useful if the soil is kept moist from the time it is filled with roots and these are well fed from the surface. Any

good manure will do for this purpose, occasional waterings with soot-water being helpful to the foliage. R.

Rhododendrons in flower.—The different Javanese Rhododendrons are just now blooming freely; indeed, where a collection of them is grown, flowers more or less in number can be found nearly all the year round. This class of Rhododendrons is totally unlike any others, as they grow at all seasons, and as soon as a young shoot has reached its limit, a flower-bud is formed which soon develops and bears a cluster of blossoms. The reason of so many flowers being produced just now is that growth is more active in the spring and early summer than at any other time, and the shoots then made are just now bearing their blossoms or rapidly approaching that stage. Then, after the present crop of bloom, the autumn growth which will flower in the spring is developed. At the same time, though the greater number of new shoots is produced during these two periods, fresh growth is continually taking place; in fact, this class of Rhododendrons may be described as almost perpetual growing and perpetual flowering. They are certainly very beautiful subjects for the greenhouse at this season, though during the winter they need a structure kept at a somewhat higher temperature than an ordinary greenhouse. So free-flowering are some of the varieties, that it will be found absolutely necessary to remove the bloom-buds for a time to induce the plant to make more vigorous growth.—H. P.

THE MARKET GARDEN.

PLUMS IN KENT.

THOUGH Plums are widely grown in Kent, they do not claim their own districts as is the case with Currants, Gooseberries, Strawberries, Raspberries, and Cherries. Plum growing from a commercial point of view is neither confined to county nor locality, for in many favoured districts in the country Plums of all sorts are grown extensively for sale. Perhaps this has had the effect of making the crop a general rather than a special one in Kent, for in spite of the fact that many acres are devoted to the fruit, you do not find large areas confined alone to Plums, as is the case with Cherries and other fruits. In respect to Plums, Kent does not possess a monopoly to the same extent as is the case with some other fruits, and as growers in other counties also send large quantities to the markets, Kentish fruit farmers have found more profitable means of investing their capital by devoting their chief attention to other fruits which are produced principally in the county. London is the chief market for Kentish Plums, where the fruit is disposed of mainly for cooking and preserve-making. Some growers, however, living in the neighbourhood of the popular watering-places on the Kentish coast do better with both this and other fruit by disposing of it at these resorts than by sending it to the metropolis, where returns are ruled entirely by the state of the market, and the grower must be content with whatever the middleman sends him.

It must not be thought from the foregoing remarks that Plums do not form an important item in the profit and loss account of the Kentish fruit farmer. On the other hand, they do, and the condition of the Plum crop generally has a great bearing on the returns. In seasons of plenty, prices sometimes fall so low that the fruit hardly pays for gathering, and in times of scarcity the Plum has to make up for deficiencies in other directions. Last season, for instance, Plums and Damsons were both scarce, except on some plantations, and where growers were fortunate in having a moderate crop, prices ruled very high indeed. One grower in the Canterbury district informed me last season that he made more in comparison out of a dozen old Damson trees that he had contemplated cutting down than from any other portion of his farm. This year there will, I

think, be a different tale to tell. In some districts the fruit is thinly distributed, but in others, trees of the more common varieties are laden with fruit, and this cannot fail to have its effect on the markets.

In the cultivation of his fruit generally, the Kentish grower works on excellent principles. He is up-to-date in his methods, pays close attention to details, keeps a sharp look-out for good varieties for market, and, generally speaking, follows business lines. I could point to scores of mixed plantations, as well as Cherry and Apple orchards, that are splendid examples of cultural skill in face of the continual dismal cry that English fruit growers are all behindhand in their methods. Fruit growing is not the sure and certain means of making a fortune that some people would have us believe. There are a hundred difficulties in the way to be overcome which make it all the more creditable to those who do succeed. I think there is less attention devoted to the cultivation of Plums in the county, however, than is the case with other important crops. That Kent does not command a monopoly of the crop may be the reason, but if some of the best varieties were grown in preference to so many common, and consequently less valuable, sorts, there is every reason to think that the crop would be more profitable. There are hundreds of trees of Pershore and other common Plums grown along the sides of fruit plantations and even hop gardens simply for the sake of protection. They serve that purpose very well, and in favourable seasons bear heavy crops of fruit, but the quality is not good enough to command high prices, and, consequently, most of them are disposed of to the jam factors at a cheap rate.

The old Green Gage is a favourite Plum in Kent, and, taken all round, it is one of the most profitable. It generally fetches a good price. In recently-formed plantations some of the later additions to the Gage section are to be met with, but the old and well-tried sort is the most popular. Green Gage is always an uncertain cropper, and in some seasons a few bushels of fruit fetch more than treble the quantity when Gages are plentiful. Some of the finest Green Gage trees I have ever seen are in mixed plantations in the neighbourhood of the ancient port of Sandwich. The soil, which is deep and mellow, is well suited for fruit growing, and Plums do well. This season Green Gages are a good crop, but prices are only moderate. In some plantations Plums are grown as standards, Gooseberries occupying the space underneath. While the Plums are of moderate size the system pays well, but when the trees get so large as to check the bush fruit, the sooner the latter are removed and the ground turned into a permanent orchard the better, as the manure and labour required for the bush fruit are not counterbalanced by the crop.

The round half sieve is the principal receptacle in which Kentish Gages are despatched to the market. After being used for the small fruits, piles of hampers are returned to the plantations for the later fruits. It has often been suggested that money might be made out of Green Gages by packing the best fruits in dainty little boxes in the same manner as the quantities that come from France and are sold in fruiterers' shops. I do not know of any grower having tried the experiment, nor do I think it would be very profitable, for though English fruit growers may be excellent cultivators, dainty packing is not their forte. Their method is to produce in bulk and dispose in bulk, and if dainty packing such as is successfully practised on the Continent ever becomes common in this country, it will be done by people who will buy the fruit from growers, daintily pack it in various ways and then dispose of it. In this way there may be an opening for a new industry.

Victoria has proved one of the most valuable Plums in cultivation, and tons of this variety are annually despatched to London and other markets from various parts of Kent. It is frequently met with grown as bush trees in plantations in conjunction with Apples, small fruits being cultivated

between the rows. There is no need to dwell on the good qualities of this variety, which is so well known to everybody, and I have heard the opinion given by more than one grower that it is the most profitable Plum in cultivation. It crops well on most soils, but in the deep rich medium to be found in the best fruit-growing districts in Kent the fruit is fine and the flavour so delicious, that Kentish Victorias have few equals for dessert or any other purpose. The variety is a sure and free cropper, and owing to climatic advantages the fruit from this county is placed early in the market, to be followed by hardier and later sorts. Pond's Seedling is grown somewhat largely and is generally profitable. Good varieties of later introduction are becoming more widely cultivated by the most energetic growers. Early Prolific and The Czar have already made a name for themselves, and I have met with numbers of trees of these varieties in recently-formed plantations. Monarch is also being planted for a late crop. These do not include the whole of the varieties grown in Kent, as quantities of Cox's Emperor, Orleans, Jefferson's and other sorts are annually dispatched to the markets.

Sharp frosts and attacks of blight are among the troubles of Plum growers, the former being the worst in low situations. This season has been a bad one for aphides, and in the early part of the summer the trees in many places presented a pitiable appearance. In spite of this, however, the crop is good in most districts and heavy in some, and the tropical weather experienced during August and September has caused the fruit to ripen early, which means that the Plum season will be shorter than usual. The cultivation of the best varieties of Plums appears to be on the increase on Kentish fruit farms, but there is no doubt that the presence of so many of the common heavy cropping but inferior sorts is the means of keeping prices down and checking the spread of cultivation of high-class varieties. Owing to the quantities that are grown for sale in other counties, Plums cannot be classed amongst the most important of Kentish crops; still, growers know the wisdom of not having all their eggs in one basket, and so long as the demand for them exists, Plums will be found on Kentish fruit plantations. G. H. H.

ORCHIDS.

COOL-HOUSE ORCHIDS.

ALTHOUGH as I write the heat is intense, it must be only the question of a week or two before we get a change, and as soon as the first drop in the temperature occurs a start must be made with the earliest of the cool-house species. A thorough overhauling is usually necessary, cleaning and repotting or surfacing, as may be required, and rearranging for the winter. Repotting is of course the most important detail, a good deal depending upon how it is carried out. Wherever it is possible catch the plants when the growths are about half made up, this being the case now with a great many of the *O. crispum*, *O. Pescatorei*, *O. luteo-purpureum*, *O. Halli* and *O. triumphans* varieties. I have often noticed that disturbance of the roots of certain plants predisposes them to new root-action, and in the case of healthy specimens, so far from doing any harm, does a great deal of good. The new roots come away quickly, take hold of the new compost, and ensure the making up of a fine pseudo-bulb before we begin to look for spikes, while the spikes produced from bulbs well developed are in most cases finer and certainly distress the plants less than others that appear upon a half-finished bulb. The energies of the plant in the one case are entirely devoted to the flower-spike, while in the other they are divided,

so to speak, between it and the growth. Exceptions there may be, of course, but this I have found the rule. The great thing then is to stimulate root-action, and this in the case of the plants under notice cannot be done by exciting temperatures or anything of this kind. These will in fact hinder the end in view, for it is impossible to force a cool-house Orchid.

A far better plan is to keep up a very moist atmosphere in the immediate neighbourhood of the roots by damping freely about the pots, keeping the compost itself a little on the dry side both before and after repotting. I am speaking of healthy, well-rooted plants, of course. As regards the manner of potting and material used, these have been frequently noted, and it is only necessary to say that the pots or baskets used should not be too large. Peat and Sphagnum Moss are the best ingredients, and these should be held in an open condition by adding freely crocks and charcoal. Let everything used be thoroughly clean, and ensure a quick passage for water by plenty of drainage material. It will be noticed, too, that different species have roots of varying size; the small, twining roots of the *Odontoglossum* referred to are quite distinct from those of the Guatemalan *O. grande*, and the cool section of *Oncidium*s, such as *O. macranthum*, *O. serratum*, *O. undulatum* and others of this class. No hard and fast rule can be made, and no nice distinction laid down, but as a general rule the larger the roots are the rougher the compost and the larger the receptacle for them. It will also be noted that in a great many instances the larger the roots, the greater percentage of Sphagnum Moss is liked by them. Where plants need to be surfaced only, and not repotted, these should, if convenient, be placed by themselves afterwards, as the treatment as regards watering will be slightly different, and it is not easy to distinguish one from the other when the surface compost of both is new. The latter plants have a lot of attached feeding roots that the disturbance has not left the others, and these will therefore need more moisture. A surface damping often does good to a newly-potted plant by encouraging the roots; to one surfaced only it would not be so helpful, as the lower and most active roots would not obtain any benefit therefrom. A thorough cleansing of the house and stages is necessary when repotting is in progress. The material used for staging on such as shingle, spar, or coke may be turned to do away with the slimy growth that is almost sure to be present after a season of growth with its attendant dampings. Walls, wood, and glasswork will probably all need attention, and any plants not repotted should have their pots scrubbed. The growth of *Tradescantias* and similar plants about Orchid stages is not to be recommended by any means, but where these plants are used the present is a good time to thin the growth a little where necessary. On very damp walls one or two of the species of *Pothos* may be used with good effect and without any fear of introducing insects, but the less of this class of thing that is carried on in Orchid houses the better. Shading is an important detail after repotting; it may almost be said that the plants cannot have too much shade, but this is only true as long as the weather remains bright. In dull or showery weather great care must be exercised, for every ray of light is of advantage to the finishing growths, yet a few minutes' bright sunshine will often mean the disfigurement of much of the foliage. Weak and badly-rooted plants must have the shadiest place, while any that have not been repotted may have the most light. Keep the dwarf kinds, as *Odontoglossum Cer-*

vantesi, nearest the glass, and arrange the largest growers on the central stages. H.

***Aerides suavisissimam*.**—When seen in good condition and well flowered this is one of the noblest of Orchids. It is, perhaps, oftener met with under the name of *A. nobile*, and is a tall-growing, handsome plant even when out of bloom, while the lovely racemes, each 18 inches or more in length, crowded with the fine showy flowers, are superior to those of such species as *A. odoratum*. It grows very rapidly in a warm, moist house and delights in plenty of sunlight, only avoiding injury to the foliage. I used to have this species in large baskets 2 feet square, and the plants about a yard through; in this state it produces a large number of spikes, which last well in good condition at a time Orchids are scarce. Such a free-growing plant naturally requires ample room for its roots, and this is where many growers go wrong with it. Small side growths may with advantage go into baskets or pans that can be suspended from the roof, but when they begin to get larger a flat basket or large pot on the stage is a better place for them. It is, if anything, easier to grow than an ordinary *A. odoratum*, putting on more leaves in a season and producing side breaks with greater freedom. *A. suavisissimam* is a variable plant in the colour of its blossoms, but the usual tint is white, more or less suffused with rosy purple and lilac.—H.

***Laelio-Cattleya corbeillensis*.**—This is a hybrid of continental origin. It is the result of a cross between *Cattleya Loddigesi* and *L. pumila*, the same cross that had previously produced *L.-C. Aurora* in this country, and it can only be considered an inferior variety of that hybrid. The sepals and petals are deep rose, of good form and substance, but the size and colour of the front lobe of the lip are not so fine as in the English raised hybrid. This front lobe is fringed with rich crimson-purple, with a light rose-purple dash in the centre. The side lobes are pale rose, shading to white, with some yellow at the base. The flowers are produced oftentimes three and four on the spike, this depending considerably on the strength of the plant. In growth it has the intermediate characters of both parents. It does best under cool intermediate house treatment, that is, a temperature a few degrees warmer in winter than the *Odontoglossum* house. *L.-C. blossensis* is also said to be derived from the same parentage. Here a mistake has evidently been made. This hybrid has the characteristic markings through the throat and front lobe of the lip as seen in *Laelia pumila* Dayana, but with this exception there is little variation between the three hybrids mentioned above.—H. C.

***Warszewiczella Wendlandi*.**—This is one of the most attractive species in the genus, and I noted an extra fine variety of it in flower recently. The leaves are about 8 inches in length and the flowers quite 4 inches across. These are pure white on the sepals and petals, the pretty ruff-like lip being white, the centre purple. The plant does well in an intermediate temperature, and it is important that the moisture be kept well up during the growing season, otherwise the growth is sure to be over-run with thrips or red spider, and this ruins their health. Root moisture, too, when the roots have obtained a proper hold on the compost must be very abundant, and even during the winter or resting season the roots must never be quite dry for any length of time. The roots are rather large and fleshy in texture, liking a rough, open mixture of clean Sphagnum Moss and peat, many growers using a portion of loam for strong plants. Their position in the house must be rather a shady one, the leaves being easily injured by sunshine, though liking a fair amount of light. Grown under these conditions the plants will flower freely, but given too much heat they sometimes grow all the year round without flowering. Besides the above-named insects scale is often troublesome, and soon spoils the tender foliage if not taken in hand and destroyed as soon as seen.—H.

DENDROBIUM DEAREI.

THIS is one of the most useful Orchids in cultivation. Being in bloom during the summer and early autumn months when other flowers are scarce adds considerably to its value. This, combined with its value for cutting and the durability of the blooms where it is desirable to keep the flowers on the plants, should give it a place in every collection. I have had plants in flower here in London since the beginning of July. Notwithstanding the excessive heat of the present season, the flowers are still in perfect condition, and I have known instances in which blooms have been removed in good condition three months after they have expanded.

D. Dearei, a native of the Philippine Islands, was discovered and introduced by Colonel Deare in 1882. Shortly after it was imported

or charcoal, which assists in keeping the material in an open and porous condition. As the plants require a liberal supply of moisture at the roots during the greater part of the year, this should not be overlooked. Black thrips, red spider, and scale are the most dangerous insect pests. Occasional fumigation and sponging will be necessary to keep the plants in a clean and healthy condition.

The accompanying illustration represents a plant of this lovely species that was exhibited at the Drill Hall meeting of the Royal Horticultural Society on July 12 last by Mr. H. Hicks, Branwood, Chelmsford, who has kindly sent the photograph. The plant was awarded a silver Banksian medal by the Orchid committee on that occasion. It is undoubtedly the finest specimen that has been seen. The plant

in an intermediate house, a rough compost and abundance of water while growing. During the resting season keep the plants quite cool and dry, but avoid shrivelling of the bulbs. Unless so treated the flower-spikes will be few. It is a native of Peru, and was introduced about 1838.

Mormodes pardinum.—The flowers of this singular species appear at various times through the year. I have noted it in several collections quite recently, yet it quite as often flowers in the spring months. Beautiful as these species are, they do not seem to take the fancy of growers now-a-days. The culture of the plant is not difficult so long as healthy specimens are procured, but once let them get badly out of health and they are difficult indeed to restore. The flowers, which appear on arched spikes, are bright yellow, spotted with red, the variety unicolor being wholly yellow. A brisk moist heat while grow-



Dendrobium Dearei. From a photograph sent by Mr. H. Hicks, Branwood, Chelmsford.

in quantity by Messrs. J. Veitch and Sons through their collector, David Burke. It may be faithfully termed a perpetual grower, and requires a light position in the stove or Phalaenopsis house, where it can obtain an abundance of heat and moisture at all seasons. The root moisture through the dull winter months must be carefully attended to to avoid stagnation, or the consequences will be disastrous, causing the points of the leaves to decay, and perhaps the ultimate destruction of the plants. I find the plants do best grown in baskets and suspended near the roof-glass. The baskets must be carefully drained with clean broken crocks, the potting compost consisting of good fibrous peat and living Sphagnum Moss, to which may be added a free sprinkling of finely broken crocks

had eleven flowering growths and thirteen expanded spikes of bloom, several others being in bud. Many of the bulbs measured upwards of 3 feet in length. The plant had been grown in an ordinary stove, standing on the stage amidst Crotons, Dracenas, and other stove plants. This fact illustrates the heat and moisture-loving characteristics of the plant.

H. J. C.

Oncidium aurosum.—The flowers of this species are very distinct and handsome, and I was glad to see a fine plant of it in full flower recently. It belongs to the yellow-flowered section, the spikes on well-grown plants often being considerably over a yard in length. The plant is not difficult to grow, and likes a light, airy posi-

ing and a thorough rest afterwards are essential. —H. R.

Cattleya aurea.—Some fine varieties of this beautiful Orchid are already open, and it well deserves its almost universal popularity. Small plants grown quite up to the roof-glass in a warm house are blooming very freely, only a few flowers being open, but every sheath is well filled. There is not a finer bit of colouring among the Orchids flowering now than the lip of this one, the lovely golden lines on the deep colour of the lip being magnificent. The plants must after this be kept at rest if possible, better growth being made in summer than winter.

Celia macrostachya.—The spikes of pretty rose-tinted blossoms produced by this plant make it worth growing where there is plenty of room, though it cannot be described as a first-rate

Orchid. They appear at the base of the last-formed growth and take a long time to develop and open the flowers. It does not need great heat, but must have large, well-drained pots and a rough, open compost. Water very freely when in active growth, but when the bulbs are quite finished keep it drier in quite a cool house, or but few flowers will be produced. It is a native of Mexico and was introduced about 1841.

Dendrobium speciosissimum.—I have on several occasions noticed plants of this species doing very poorly, though others of the same section were thriving in the same house. Yet if it can be induced to grow strongly it is a fine thing, the pure white of the sepals and petals being well shown up by the deep orange-red of the centre of the lip. The blossoms on weak plants have the bad habit of remaining half closed, and do not therefore show their full beauty, but this should not be the case on well-grown specimens. It is found growing naturally at considerable elevation, I believe, and consequently will do with less heat than *D. formosum* and its allies.—H. R.

Epidendrum polybulbon.—This is a dwarf species, bearing freely the pretty little yellow and white blossoms. These occur singly on the scapes, which are only an inch or two in height. It does well in a warm or intermediate house if care is given, but being very small it is easily injured by checks owing to too little moisture in the atmosphere or from draughts. The plants may be grown in small pans or baskets, or even on trellised rafts, in each case requiring a medium thickness of compost only. Frequent top-dressing is preferable to disturbing the roots, and serves to keep the compost in a sweet and open condition. *E. polybulbon* is a native of various of the West Indian Islands, and was introduced in 1842.

VANDA HOOKERIANA.

THIS beautiful Vanda should be grown by all who have a suitable house for it, and many who do not grow Orchids at all may cultivate it easily in such places as Pine stoves or ordinary plant stoves where strong heat and abundant moisture are accompanied by ample sunlight. A house devoted principally to Crotons would, if the wants of these were properly catered for, suit this Vanda perfectly. The bright sun needed to bring out the colours of the Crotons to the full would be very like the conditions that obtain in its Bornean habitat, while the moisture would have to be ample to keep insects in check. The growth of this species must not only be very rapid; it must be hard and well ripened as it is made, or no flowers will be produced. The habit of the plant is scrambling and the roots are formed at short distances apart all the way up the stem, like those of a *Renanthera*. For this reason something should be provided that these can lay hold of as they are made, or a great deal of the strength of the plant will be lost. If pieces of Tree Fern stem can be had, they may be used with every prospect of success; but these are not always procurable, and a very fair substitute is a piece of Birch lightly dressed with Sphagnum Moss, this being fixed with fine copper wire. These pieces may be placed with the lower ends in large pots nearly filled with drainage, the upper couple of inches being made up of Sphagnum and rough charcoal. The lower tiers of roots will enter this and materially strengthen the plant. The pots should not be less than 9 inches across, or they dry up too rapidly and are very apt to fall about owing to the weight on top. Until the roots begin to run freely in the Moss this should only be kept just moist enough to keep it alive, but when this occurs the whole plant may be frequently dipped into a tank or tub, syringed frequently, or otherwise kept constantly and regularly moist as long as growth is active and the weather is bright. In this way the natural conditions under which it grows are imitated, and if an ammoniated atmosphere can be provided so much the better. The flowers of *V. Hookeriana* are produced on peduncles near the top of the plants, usually about three (1

each, though more on a spike is not uncommon. The sepals are nearly pure white, the petals flushed and spotted with purple, the lip very much deeper, especially on the small side lobes, and also spotted with purple. Though described by Sir W. J. Hooker as long ago as 1856, this species was only introduced to this country alive as recently as 1879, and it first flowered at Tring in 1882.

ORCHIDS NOW-A-DAYS.

THE Orchid plants which one sees at the present day bear but a very poor comparison as to size with those which used to be found in collections a quarter of a century ago, and I think the scrappy pieces now so generally seen lose a great deal of interest, except perhaps to the Orchid specialist, who concerns himself with infinitesimal variations of colouring that have no meaning to the laity, and sees no charm in a big specimen further than to calculate into how many pieces it may be divided and how much it will fetch in the market. Not long ago I was shown a small *Cattleya*, a new variety, with more words in its name than there were leaves on the plant. A very high price was fixed to this particular specimen, though there are many more beautiful *Cattleyas* in existence, and before I left the place the so-called plant had been divided, so that it must be years before anything like a good specimen can be found; probably it never will be if the present taste for scraps of plants remains. When looking through collections of Orchids I miss the fine old specimens with their charming quaintness of growth and plenitude of aerial roots which helped one to fancy them as they grow in their native habitats. Of course, variety has been greatly increased during the period over which my memory takes me, and no one could deny the progress which has been made in that way.

Equally, of course, propagation must be effected to supply the demand for the best, but, leaving trade collections out of the question, Orchid houses in private places do not strike one as being nearly so interesting or their occupants so beautiful as they were a couple of decades ago. Having this in mind, it was especially pleasant to meet with a few really fine specimen Orchids recently at Coldham Hall, near Bury St. Edmunds. A fine plant of a good form of *Ceologyne cristata* measured over 3 feet in diameter, and other big specimens were seen of *Cymbidium giganteum* showing well for flower, *Laelia superbiens*, *Angraecum eburneum* var. *superbum*, that will presently be carrying a great number of flowers, and *Cattleya gigas*, a large plant in good health and vigour. Such plants as these and big specimens of *Aerides*, *Vandas*, *Odontoglossa*, *Oncidiums* and *Dendrobiums* give houses a well-furnished and pleasing appearance that cannot be got from the scrappy pieces which one is now so accustomed to see.

L. T. G.

Cattleya bicolor marginata.—This is very beautiful when first open, the bright colouring being much finer than later. The sepals and petals are quite an emerald-green, the lip bright crimson-maroon with a pure white border, and, though this makes the specific name unsuitable, it is a beautiful combination. The column of this species is not enfolded by the side lobes of the lip, as is usual in the genus. The plant is of fairly easy culture, but dislikes a strong heat, this leading to weak, spindly growth. Large plants may be grown in pots about 10 inches across, the compost being made very rough and perfect drainage given.

Laelia elegans (*R., Somerset*).—This is an average form of the section called *Schilleriana*,

the plants of which are generally supposed to have originated from a cross between *Laelia purpurata* and *Cattleya intermedia* in a wild state, other forms having without a doubt originated from the *Laelia* and *C. guttata*. It is a very useful garden Orchid and easily grown, flowering over a long season and lasting well in good condition. Wherever such species as those named above, *Laelia crispa*, or any in this section thrive, *L. elegans* will usually be satisfactory. The compost and general treatment are the same as for the labiate *Cattleyas*.

Miltonia spectabilis Moreliana.—A fine form of this pretty species comes from "C. C." for a name. It is one of the finest of autumn-flowering Orchids, and not difficult to grow if given reasonable attention. The plant has always a yellowish tint about it, but this is not necessarily a mark of ill-health. It likes a medium thickness of compost only, and may be grown on rafts lightly dressed, or in baskets two-thirds filled with drainage, the rest made up of peat and Moss. Water very freely during summer, and in winter allow sufficient moisture to prevent shrivelling. Give it a light position in the intermediate house.

Cymbidium Mastersi.—Although not so showy as some of the long-spiked species, this makes a pleasing change from such as *C. Lowianum*. The blossoms occur on sheathed spikes and are sweetly scented, white, with a few purple spots. High up on the Khasia Hills this species is doubtless often exposed to a very low temperature, and under cultivation it will be found to do well in quite a cool house. The roots are strong and the growth very free, so plenty of water and a rather rich compost must be allowed, no dry resting season being required, though during the winter far less water is needed than when hot and dry weather, combined with the free growth of the plant, makes almost constant attention necessary.

Cattleya Eros (*C. Mossiae* × *C. Walkeriana*).—This is a distinct and desirable hybrid, the sepals and petals of fine form and substance, the colour being delicate rose similar to that seen in *C. Walkeriana*; the open and flat-shaped lip pale rose, covered with a suffusion of bright rose-purple, with some yellow at the base; the side lobes rose, shading to white at the base. The habit of growth is fairly intermediate, but resembles that of *C. Walkeriana* in shape, enlarged by the influence of the stronger parent. The leaf resembles that of *C. Mossiae*. A plant with a single flower was recently exhibited at the Drill Hall from the nurseries of Messrs. J. Veitch and Sons, King's Road, Chelsea.—H. J. C.

Cattleya Harrisoniae.—There is considerable confusion between this species and *C. Loddigesi* in gardens. In structure the flowers are similar, except the front lobe of the lip, which is not so deeply cut and is flatter, without the pinched-up appearance of the last-named species that is found in the former. It has also usually more substance in the flower. The variety *C. Harrisoniae violacea* is a highly coloured form of that variety. It is scarce, and, being much sought after, usually realises fair prices. The imported plants sold as this variety cannot be relied upon, and do not as a rule turn out anything but the typical forms; at the same time there is always the possibility of flowering the dark forms and unique varieties from importations of plants, which, as a rule, sell very moderately, and can be procured for a few shillings. It also gives the amateur more interest in watching the development of his plants as they become established, and adds to his satisfaction should anything out of the common make its appearance. Both *C. Loddigesi* and *C. Harrisoniae* flower during the autumn months of the year at a season when very few other *Cattleyas* are to be found in bloom. The flowers last a long time in perfection, and, not being too large, are useful for cutting. This consideration should add to the charm of this delicately tinted and useful *Cattleya*.—H. J. C.

FLOWER GARDEN.

NARCISSUS NELSONI VARS.

The varieties of *Narcissus Nelsoni*, even if less bold and striking at the first glance, are by no



Narcissus Nelsoni major. From a photograph by Mr. A. Dashwood-Howard, M.D., Hampton Hill.

means without interest and certainly not without beauty even amid so much that is beautiful in the genus as a whole. Indeed, so far as beauty with chasteness is concerned, I regard *N. Nelsoni major* as among the most pleasing for small glasses in a cut state. The accompanying picture will convey an excellent idea of the variety mentioned in this respect, and the drooping character of the blooms, so well shown, renders it very distinct among these hardy flowers of spring. So beautiful is it when grown in pots that it is sure to attract attention from almost anyone seeing it for the first time. It may not, perhaps, be considered an ideal flower for the market grower just because of its size alone, but the market grower is by no means an all-in-all authority on the subject of general gardening or even decorative gardening. I say so much because such as the above-mentioned kinds do not appear to be so generally cultivated as one may expect, and seeing there is a run upon the so-called market favourites. For the private gardener I consider the major form of *N. Nelsoni* one of the gems for cutting, and when pot-grown the segments of the perianth are singularly pure and chaste-looking. There is also considerable distinctness in the long, cylindrical crown that outside the few varieties of the group under notice is by no means common. Apart from these considerations, the quality of the flower is good; in fact, few flowers are superior to it in this respect. Happily, too, with all these good points the kind is comparatively cheap, so that it may be grown freely by those who so desire.

The varieties of this group, by their singularly graceful form, are specially suited for the rock garden in slightly raised positions where they may catch the eye. In this way they are very pleasing and attractive, and not less so in

a general way; or, again, in grassy spots, for here they produce an almost unique effect. Very few, perhaps, have adopted the combination of planting this and the well known *Queen of Spain* either as a mixed bedding arrangement or in grass. The *Queen of Spain* is a justly popular kind for bedding, and for all practical purposes *N. Nelsoni major* may be regarded as a bicolor of the same group. The stature of the two, as also the general aspect, has much in common, though the foliage is distinctly broader in the *Nelsoni* kind. They are all easily grown in light loamy soils, and need not be disturbed each year. The kind in the photograph will speak for itself, except that the segments are very pure and clear. *N. Nelsoni aurantius* has the cup slightly more expanded and rather shorter than in the above, and stained with orange-red at the tip. The variety *minor* is all the name implies, a dwarf and very pretty form, excellent for rock-work planting. *N. N. pulchellus* is a great beauty in this set, the perianth very white and well imbricated. William Backhouse is also a very beautiful form, with clear yellow cup and broad white perianth segments. These are all well worth growing, and, if not a very numerous company, may safely be regarded as among the most exquisite and pleasing—albeit modest and unassuming in general appearance—of this

extensive and varied group of hardy bulbous flowers.

Cutting down the white Rocket.—Some time ago several notes appeared in THE GARDEN anent this fine border plant. I do not remember seeing any mention made regarding cutting down the flower-stems. I am convinced that in many cases this *Rocket* and many other hardy plants suffer considerably from cutting the flower-stems off close to the ground as soon as the plant is out of bloom. Often at this stage no young shoots are appearing and hardly a leaf. I always allow the flower-stems to remain till the young growth for next year is well advanced.—DORSET.

The cardinal Lobelias.—Many years ago certain forms of the larger scarlet *Lobelia* were raised, and they were very popular at one time; but the great wave of bedding excitement put them into the background, and this notwithstanding that they were among the handsomest plants ever introduced to our country. Now we see a revival of interest in them and some attempts made to improve them. As regards the varieties like *Queen Victoria* that is impossible. MM. Rivoire, of Lyons, have raised some handsome hybrids between the blue *Lobelia* of the American river banks (syphilitica) and the large scarlet *Lobelias*, some of which are pretty in colour and likely to be useful. *L. cardinalis* is smaller than the scarlet *Lobelia* and is distinct in colour; in fact, a distinct species. The hybrids with the blue

Lobelia have not seemed to us real improvements, but some of those raised at Lyons are much better than the old ones. The true cardinal flower is a good hardy perennial, and is a native of the northern and eastern States of America, growing in moist soils; but the plant that gives us the finest and most showy garden varieties is *Lobelia fulgens*, which is a native of Mexico and the Southern States. Although the plant grows well in summer in our gardens, it is somewhat tender in winter. We mean the varieties of this greater scarlet *Lobelia*. Round the coast, in light peaty soils, in the west country and in Ireland it often lives over the winter, but in inland districts and cool soils it must be kept in frames, as out-of-doors it is very apt to perish in winter. *Firefly* is among the best forms of this *Lobelia*. Distinction, too, is also good, and also *Lord Ardilaun*, though too dark in hue for good effect. These have been sent us by Mr. T. Smith, of the Nurseries, Newry, and *Firefly* is the best of them.—*Fidd.*

CROCOSMIA IMPERIALIS.

PROBABLY owing to the dry weather we have experienced of late, the blossoms of this beautiful bulbous plant appear even more brilliantly coloured than in previous years, and a mass of it has been for the last fortnight and still continues to be a particularly attractive feature in the garden. Whether the generic name of *Crocospia* or *Tritonia* be the correct one matters little, but it was distributed and is more generally grown as a *Crocospia*, though our botanical authorities include it in the genus *Tritonia*. It is nearly related to the garden forms of *Montbretia*, but is altogether a bolder-growing plant, with larger flowers. The branching spikes reach a height of a yard or more, while the individual blooms are on strong plants fully 3 inches across, of a brilliant reddish orange on the outside, and a good deal lighter within. As the blossoms have rather a drooping tendency, the rich-coloured exterior is more in evidence than the inside of the flower. Like the *Montbretias*, this *Crocospia* is hardy in well-drained soils, but it is seen at its best where somewhat sheltered, such as a border in front of



Narcissus Grandee. From a photograph sent by Mr. A. Dashwood-Howard, M.D., Hampton Hill. (See p. 241.)

a hothouse, under which conditions so many other South African bulbs flourish. *Crocospia imperi-*

alis does not increase so rapidly as some of its allies, but it cannot be regarded as backward in this respect. The bulbs, which are about the size of those of a *Crocus*, push out stoloniferous stems that often travel some distance before making their appearance above ground. From this circumstance they soon take possession of a considerable space of the border in which they are planted, and if in pots these shoots take a circular direction, and continue in this way before coming up just at the edge of the pot. Like many other natives of the same region, this can scarcely be considered perfectly hardy, hence a little protection in the shape of dried leaves or some such material may be laid over the border during the winter in order to make all safe. Like the *Montbretias*, the leaves are particularly susceptible to the attacks of red spider, and frequently turn yellow before the flowers develop. When this occurs it detracts from the beauty of the plant, and in order to combat it as far as possible it must not be allowed to suffer from want of water. This *Crocsmia* may also be readily grown in pots and employed for the embellishment of the greenhouse or conservatory at this season, but when intended for this purpose the plants should be left out of doors till the flowers are just on the point of expanding, as in this way they are far more richly coloured than if taken under glass some time previously. H. P.

THE HYBRID CLEMATISES.

(Continued from page 201.)

I now go on to speak of the hybrids. The number of hybrids, almost all of them of the large-flowered kinds, is so considerable, that it would be difficult, not to say impossible, to enumerate them in their entirety. I am going to give a list of the best, grouping them to the best of my ability. I will commence with a description of two kinds which I have raised from seed.

Two hybrid Clematises not yet brought out are *C. Marie Madeleine* and *C. Marie Louise*.

C. MARIE MADELEINE.—The stem rises some 12 feet or 15 feet, as in the type, the leaves also like those of the type, but of a lighter green; flowers of the size of those of *C. Jackmani*, but in colour mauve, changing to violet-purple in the open flower, and afterwards to a brighter tint. This Clematis is closely allied to *C. modesta* (*Viticella modesta*, Hort.). It flowered for the first time in 1879. Its effect would be improved by mingling its bright gay tint with the more or less deep violet-blues or violet-purples (almost black) of other hybrids of the same race.

C. MARIE LOUISE.—Although summer-blooming, I, nevertheless, place this among the *azureæ* rather than the *lanuginosæ*. It is one of the handsomest I know, owing to the enormous size of its white flowers. The stems are ruddy and fluted, resembling in this the *azureæ*, but they are stronger, and may rise to a height of 6 feet or more. The leaves are a deep green, 3 inches to 4 inches in length by $1\frac{1}{2}$ inches to 2 inches in breadth, and are lightly covered with down on the under side. The flowers are each 8 inches to 10 inches in diameter and well displayed; the sepals are narrow at the base and about 2 inches to 3 inches wide. They are pointed, smooth, and so light as to be easily stirred by the slightest breeze. The freshly-opened flowers are white with a pale tint of lilac-blue, which changes to a pure and shining white. Blooming commences about May 25, and is over about the end of June.

These two hybrids were produced spontaneously in 1875 or 1876 along a high wall which faced the west and was covered with a number of species of Clematis, notably *azurea* and a strong plant of Jackman's Clematis. In a neighbouring garden on a palissade facing north Clematis *lanuginosa* and *florida venosa* flourished in abundance. In December, 1877, my two hybrids, then young plants, were trans-

ferred to my new dwelling in the Avenue de Paris, and here they grew and flowered, as I have already described.

The hybrid and generally large-flowering Clematises should belong to one or other of the following five sections: 1, the *Viticellæ*; 2, the *Jackmani*; 3, the *Floridæ*; 4, the *Azureæ*; 5, the *Lanuginosæ*.

1.—VITICELLÆ.

In this place my special purpose is to consider the *Viticellæ* proper, a very natural group, characterised by their racemes of cross-shaped, medium-sized flowers. They are summer-blooming plants. In describing the species

C. VITICELLA, I mentioned the fixed and oldest known varieties, viz., *C. Viticella purpurea rubra*, *violacea alba*, and *fl. pleno*. To these should be added the following hybrids:—

C. RUBRA GRANDIFLORA (Jackman).—The flowers of this are of a good size and of a fine dark purple colour; the sepals are slightly twisted (sometimes partly green) and foliaceous.

C. KERMESINA (Lemoine).—A deep carmine, shot with flame colour.

C. IRIS.—The flowers, which have large sepals, are of a vinous-purple colour.

C. MME. MOSER.—In this the flowers are of a fair size and white, resembling in appearance those of *C. Viticella Iris*.

C. ALBA NOVA.—A distinct and old variety, the flowers white and composed of four to five petals. In

C. MONS. GRANDEAU the flowers are of a rose colour.

All the above four hybrids, of which one was produced from the seed of *florida venosa*, or at least the three first-named, have an evident relationship in the conformation of their flowers with Clematis *florida* or the hybrid *f. venosa*, to which *C. Viticella Iris* is allied.

C. ERECTA.—This *Viticella*, which stands about 20 inches high, is a hybrid, with larger deep blue flowers than *C. nana*.

C. FRANCFURTENSIS (Ruiz).—This Clematis I have had in cultivation over twenty-five years. It is a tall *C. Viticella* with handsome blue flowers, which are larger than those of *cœrulea*. According to M. Lavallée, the Frankfort Clematis is a hybrid of *Viticella* \times *hakonensis*, or *Jackmani*, like

C. GUASCOI.—Obtained at Luxembourg by M. Guasco. It resembles the preceding.

C. OTHELLO (Cripps) is a medium-sized flower of a deep purple velvet colour.

C. RUBRA GRANDIFLORA NOVA (Flon).—For some months I have had in cultivation a variety of the red *Viticella* which was produced from seed by M. Flon, of Angers, and is still unnamed. This new acquisition I saw in full bloom in June, and it appeared to me very promising. It is a red *Viticella*, with flowers of fair size and well formed, allied to *Viticella rubra grandiflora*, which has already been turned to good account in the production of hybrids.

The other hybrids of *C. Viticella* are large-flowered Clematises, which must be classed with *C. Jackmani*. They are very numerous and compose the handsome red hybrids which are in so much request now-a-days. Before coming to them, however, let me mention several hybrids which are among the other types of this great section. Among the *integrifoliæ*,

C. INTEGRIFOLIA DURANDI, the result of crossing *C. lanuginosa* and *C. integrifolia*, is a handsome flower of a deep violet-velvet colour with yellow stamens. It is composed of from four to five sepals, each 3 inches to 4 inches in length, and remains in bloom from May to October.

C. HENDERSONI, of which I have spoken, is itself a true *integrifolia*; it is subfrutescent, and 5 feet to 7 feet in height.

The *urnigeræ*, whose pitcher form and original shape are especially noticeable in *C.*

Pitcheri and *coccinea*, have been hybridised, and three or four varieties have been raised by M. Louis Paillet, of Chatenay (Seine).

2.—THE JACKMANI OR LARGE-FLOWERED VITICELLÆ.

There are two distinct forms of *Jackmani*: that of the *Viticellæ* just described and an erect form characterised by tufts of flowers and by the axillary pedicels being ramified and many-flowered, and in the form of cymes. This second form is earlier than the ordinary form. This year, at a height of 10 feet to 13 feet, it gave me a magnificent and long-continued bloom, the flowers being large and for the most part having four sepals. I think the name of *C. Jackmani splendida* would be a good one for this. The type of Jackman's Clematis has now been very long in cultivation, has undergone various transformations, and is seen under several forms.

C. JACKMANI SPLENDIDA is the name I gave to the form with flowers in tufts or cymes. In

C. JACKMANI NIGRICANS, the ordinary form, which I have cultivated for fifteen or sixteen years, the flowers are violet-blue, almost black.

C. JACKMANI SUPERBA, a deep violet-purple colour, reminding one of *C. Mme. Grangé*.

C. JACKMANI VIOLACEA (*Viticella modesta*), a true Jackman's Clematis often seen with deep violet flowers changing to a bright violet colour.

C. MME. GRANGE, obtained by M. Théophile Grangé, of Orleans, is a handsome and favourite hybrid with fair-sized flowers in racemes and four to six spoon-shaped sepals more or less displayed. It is of a handsome purple-crimson velvet colour.

C. SPLENDIDA (Simon Louis).—A deep violet colour. (*Viticella atro-rubens* \times *lanuginosa*.)

C. RUBRO-VIOLACEA (Jackman).—Maroon, changing to violet. (*Viticella atro-rubens* \times *lanuginosa*.)

C. RUBELLA (Jackman).—Violet-purple.

C. PELLIERI.—A hybrid obtained by the late M. Alfred Pellier, of Mans, from *C. Viticella* \times *C. lanuginosa*. The flowers, which are fairly large, are blue in colour, the centres a very bright blue. 1880.

C. RENAULTI GRANDIFLORA (Dauvessé).—In this the flowers are of a handsome deep violet-blue.

C. MME. FURTADO-HEINE (Christen).—One of the finest of the reds, and got from crossing *C. Viticella rubra grandiflora* with *C. lanuginosa*. It first flowered in 1883.

C. FRANCOIS MOREL (F. M. de Lyon).—Flowers formed of four sepals; in colour a handsome vinous red.

C. EDOUARD ANDRÉ (F. Morel).—Flowers formed of four sepals; in colour very rich velvety purple. A cross between *C. Viticella* and *C. François Morel*.

C. STAR OF INDIA (Cripps).—A fine deep violet, with black veins and purple centre. Flowers in corymbs.

C. GIPSY QUEEN (Cripps).—A deep violet velvet colour.

C. MME. BARON VAILLARD.—Obtain in 1885 by M. Baron Veillard, of Orleans, from seeds of *C. Viticella azurea*, *Jackmani*, and *lanuginosa*. The flowers, of fair size and fine rose-lilac colour, are very effective. It blooms from the end of August till the frosts come.

C. TUNBRIDGENSIS (Cripps).—This belongs to the *Jackmani* section. It is one of the finest blues and very striking. M. Lavallée describes it as a species intermediate between *C. patens* and *C. hakonensis*.

C. JACKMANI ALBA (Noble).—This handsome and vigorous hybrid and continuous bloomer is not a pure *C. Jackmani*. From its white and often semi-double flowers it belongs to the *azureæ*; by its inflorescence it belongs to the *Jackmani*. Its flowers, in foliaceous, drooping racemes, are charming when mixed with blue and purple Clematises.

C. MME. ANDRÉ (Baron Veillard).—One of the latest hybrids, and also one of the most deserving through its large, fine red-carmine-violet flowers.

It derives its red colour evidently from one of the Viticella crossed with the large-flowered Clematis.

C. MAGNETICA (Jackman).—Of the same origin as *Mme. Ed. André*, which it preceded by a long while (about 1876), but not so red as *Mme. Ed. André*, being a violet-purple-crimson.

C. PROTÉUS.—Flowers rose-purple, fairly large, and often semi-double, apparently a result of crossing a red *C. Viticella* with a *C. azurea*.

C. PERLE D'AZUR (François Morel).—A vigorous plant, abundant, and continuous in bloom from June to September. The flowers are large and formed of six sepals; the colour a pale azure-lilac rose.

C. ÉTOILE VIOLETTE (F. Morel).—Graceful flowers, deep blue in colour, shaded and streaked with carmine.—*DR. JULES LE BELE*, in *Bulletin de la Société d'Horticulture de la Sarthe*.

***Erigeron speciosus*.**—This has never bloomed so well with me as this year, although I have had it in the same border for the last ten years. This may arise from being divided last autumn and planted in a fresh position in good soil. Evidently to get the best results from it you must induce a strong, firm growth. My method of growing this is in large masses. With me this year it has grown from 2 feet to 2½ feet high, and during June and July it was very effective.—*DORSET*.

***Myosotis dissitiflora*.**—This, the best of the Forget-me-nots, is rather a miffy subject in some gardens, and old plants often become a prey to a fungoid disease that unfits them for use as stock plants from which to propagate by division, and one has, perforce, to resort to seed sowing for renewing stock. This is the case with me on light and dry soil, and only in wet seasons can old plants be depended on to grow well and remain healthy through the summer. On the heavy soil at Coldham Hall the plant grows like a weed, and I lately noticed a large and healthy batch of nursery stock that will by-and-by be a pleasure to plant out. Inquiries elicited the fact that the plant gives no trouble at Coldham, and is always to be found in a healthy state.—*L. T. G.*

Violets and the hot weather.—In many gardens the long spell of dry weather has had a bad effect on these, more so where the soil is hot and dry. I fear in many gardens in the south and west its effect will be seen next spring. In a season like this those who grow Violets in full sun must give them much attention in damping, mulching, &c. For years I have given up growing them in the shade and have them this year in full sun. But for all this my plants are growing fast, are clean and look well, and up to the present time (August 20) I cannot see any spider on them. This year I was a little later than usual in planting them out of the boxes into the open ground. This was done early in June. After the planting was finished I lightly shaded the plants with some branches stuck in among them. As soon as the plants were established I gave them a good mulching of old spent Mushroom manure, and each night and morning they were well syringed with clear water. A day or two ago I gave them a good watering with weak manure water. I should advise not removing them into the frames too early, as when rain comes it will assist root action previous to being lifted.—*J. CROOK*.

Lilies and Galtonias.—In but few private places can Lilies of various types be seen in such profusion and vigour as they are now at Rougham Hall, near Bury St. Edmunds. The soil here, which also grows *Rhododendrons* to perfection, appears to suit the Lilies admirably, and they were there in thousands in great variety, and scarcely any disease was seen. The most plentiful appeared to be *L. lancifolium album* in great groups, with strong stems 5 feet high and carrying many flowers and buds on almost all stems. *L. auratum*, two and three years planted, was quite at home, the stems carrying in many cases from eight to ten flowers each. *L. longiflorum*, in established clumps also, was in fine bloom, the

plants being quite equal to many that are got from imported bulbs the first year after planting. The double form of *L. tigrinum* seemed to be a favourite Lily, and it was certainly very showy. At the time of my visit, perhaps the most striking effect to be seen was obtained by massing thousands of *Galtonia candicans*; rarely have I seen such spikes, and never quite in the same profusion. Being well set among plenty of greenery from shrubs, the effect was most happy. The portion of the pleasure grounds where these things were to be seen is being opened up, to obtain better views and to make room for more extensive planting of hardy flowers in large masses, which seem to be appreciated at Rougham, and which can be made so effective when well done.—*L. T. G.*

***Lobelia Carmine Gem*.**—This lovely perennial kind may safely be placed in the front rank, a position to which it is entitled as much for the new and novel as well as striking shade of colour as for its great freedom of flowering. When shown a year or so ago at the Drill Hall it was admired by a large number because of the novel shade of colour—a shade, by the way, all too inadequately expressed even in the above name, but even then no idea could be obtained of its great freedom of flowering when planted out in good ground. In this latter way we have recently seen it in grand form in some large beds at Gunnersbury House, where Mr. Hudson has made a feature of the plant. There are two beds of it in these gardens, separated from each other by a third and larger mixed bed arranged with fine-foliaged things, *Cannas* and the like. The ample varying greenery of this central bed is by no means lost by the brilliant effect of the *Lobelia* at each end. The plants, too, are wonderfully profuse in flowering, as the large central spike is just fading, and the endless side spikes are just now surpassingly rich and brilliant in tone. This is the more gratifying in a season like the present, unequalled perhaps for its combined heat and drought; therefore the plant may be confidently recommended for effective grouping generally. The lesson here gathered in a garden and situation far from favoured is a good and useful one, as no one who plants in fairly good soil need fear the results. It is the finest hardy flowering plant we have seen for many years, and those who garden for effect should use it freely and, of course, judiciously. The tallest spike is about 3 feet high, the endless lateral spikes about 2 feet or rather more.

BICOLOR DAFFODILS.

It is within the limits of the "bicolor" race of Daffodils that we find the most worthy, as indeed the most valuable, of the great family of *Narcissus*. This is so, whether it be from the point of view of individual beauty, for cutting or for general effectiveness in the garden, wherein, happily, they are among the most easily managed of their tribe. Some of them indeed, as, for example, the well-known *Horsfieldi*, or *Empress*—splendid representatives of the section now under notice—are so generally good in so many gardens, and, of course, varying classes of soils also, as to merit the distinction of being among the most vigorous and reproductive of all Daffodils. And to say this of two such sterling kinds is but doing them, as it were, simple justice, for it would be difficult indeed to name another pair so easily and cheaply procured of which so much may be said without fear of contradiction. Indeed, they are by their very robustness and vigour just the kinds that may be recommended to any amateur who must, perforce, leave many of his bulbous plants in the earth year by year, and by so doing have not the least fear but what they will duly appear in spring finer and better than ever before. And what is true of those mentioned as a pair is equally true of others as

individuals, and of these none in greater degree than that so well shown in the accompanying illustration, *N. b. Grandee*, so long known by the name of *N. b. grandis*, the latter giving place to the former at one of the conferences on these flowers a few years since, when it was unanimously decided that no Latin name should be applied to varieties of plants of garden origin, and as "a Rose by any other name would be as sweet," so also this handsome bicolor retains all its valuable characteristics still. Individually it possesses a vigour even greater than *Horsfieldi*, while as a really reliable sort in many soils it can hold its own with many—if not, indeed, most—kinds. Its chief value to the gardener is its lateness in flowering; indeed, save for the smaller *N. bicolor* of Haworth, *N. b. Grandee* (see page 239) may lay claim to being the best of all the late bicolors. In truth, even this slight qualification may be swept away when, as now, we are regarding these things from a garden standpoint, for the bicolor mentioned will never equal the nobler *Grandee* for general effect. Much of the fine character of the latter is well shown in the picture, but the clearness of the colour, both in the segments and in the trumpet, can only have full realisation in living specimens. The broadly imbricated perianth segments are a good point in the variety *Grandee*, and perhaps very few of these kinds give a better effect in a vase than a good handful of its flowers. But while I regard it as a very fine Daffodil for general effect in a garden, I am not slow to recognise its shortcomings, or fail to see how or where it may be improved. It may be improved considerably in various ways, chiefly, however, by length of stem and much refined perianth segments.

These latter are, indeed, rough when we compare flowers with those of the chaste and beautiful *Mrs. Walter Ware*, a finely-finished flower indeed, and one that speaks for itself among a handful of good things. *Mrs. Walter Ware* is a bicolor which will live for ages, provided its constitution is as good as others named. Great size it does not possess, but there is incomparable beauty in its form and in the well-defined colours, while the horizontal crown is beautifully reflexed at the brim and nicely proportioned throughout. It is a free-flowering kind, and a hundred of its flowers are really satisfying and pleasure-giving to a degree. The bicolor *Ada Brooke* is a useful kind also, chiefly for filling in the gap between the early and late kinds, while for colour and form it is also excellent. In the trumpet of this kind there is richness of colouring not always found in this race. Among the most chaste, however, the lovely *J. B. M. Camm* will ever hold front rank. It is indeed a flower possessing the highest refinement and withal well proportioned and of good substance. The exquisite beauty of this kind may be extolled to almost any limit without saying one word too much in its favour. It is indeed the fairest of all the bicolor race. Other good and worthy things are *Portia* and *Cambaceres*, both of good form and substance. Still in the same group we find such as *Mme. Plémp*, in which the large segments of the perianth are very broad and white and the trumpet rich in colour; happily it is possessed of a fine vigorous habit. Another excellent kind is the new *Victoria* that fitly made its début a year ago. This in every respect is an excellent bicolor Daffodil, one that is full of promise for the future. The growth is not only sturdy, but the trumpet, which has a nearly horizontal aspect, is very imposing. Still to be mentioned is that magnificent kind *Weardale Perfection*, a princely bicolor indeed. This kind has no equal in its stately bearing,

its monster flowers or massive growth. How near it the lovely Ellen Willmott will be when these can be seen side by side in growth time will prove. As a flower, however, Ellen Willmott is a superb, highly-finished kind, a flower, too, that renders further progress difficult. At the same time, with two such noble Daffodils as the last-named, who can guess what the future of this race may be? E. J.

FLOWER GARDEN NOTES.

PLANTING BULBS. Among the different items of flower-garden work to be carried out in September, not the least important is the planting of various bulbs that may be relied on to give a supply of flowers for cutting. I am not writing of naturalisation, nor has the suggestion much to do with the flower garden, as things planted solely to produce cut flowers are hardly likely to be serviceable in the way of a display, and if they can find a place in odd nooks and corners, so much the better. Where bush Gooseberries and Currants are set somewhat widely apart and kept within bounds, the central space, say about 1 foot or 18 inches in width, among admirably for such things as Snowdrops, Chionodoxa, Spanish Iris, and Daffodils. The width required should be forked deeply and broken thoroughly—not broken merely on the surface, but right through the depth; large, hard lumps about where the bulbs will rest are not conducive to an even or good growth. Daffodils are easily first among bulbous plants for the purpose. They are in general favour, and a judicious selection will furnish flowers for three months. I would suggest, with due regard alike to a long-sustained display and economy in the purchase of bulbs, Obvallaris, Princeps, Rugilobus, Horsfieldi, Barri conspicuus, Johnstoni Queen of Spain, and the single and double Poeticus. The fifth and sixth on the list are a little more expensive, but I regard them as indispensable in any collection of Daffodils. As for the newer varieties, they are at present beyond the means of the ordinary grower, and it will be some years before, for general purposes, they are likely to supersede the sorts named above. The strengthening of bulbs and yearly increasing flowering of different varieties are possibly questions of soil and situation. With me the best in this respect is the May-flowering single Poeticus. I am not prepared at present to go into statistics, but can say that from bulbs planted six years ago at 12 inches each way, twelve, fourteen, and in some cases sixteen flowers were obtained this year. The wealth of bloom secured from even a limited area is therefore very great; in fact, from this standpoint I should put the May-flowering Poeticus easily first among all the kinds I have had to do with. In the case both of Daffodils and Spanish Irises it will be found advisable if circumstances permit to plant in different situations that the season may be prolonged. On a north-west border I find them quite a fortnight later than where they are fully exposed, and as a matter of course in the semi-shade the flowers when fully expanded are longer retained. This prolongation of the season by planting in different situations is worth the attention of all who have to provide a lot of cut flowers. I have already tried it on a small scale, and, finding the experiment in every way satisfactory, have just done a narrow north-west border thoroughly well with the view of planting thereon a portion of a good batch of hardy flowers raised from seed that are now quite ready to be transferred to permanent quarters. In such a position I am still cutting (September 9) in good condition Gypsophila, Montbretias and Pentstemons in variety, also in annuals two varieties of Coreopsis and Godetia, Salpiglossis and plenty of Mignonette.

TUFTED PANSIES were very fine in spring and early summer, but did not last out. On our light, dry soil the prolonged drought was too much for them, and despite two or three good soakings they began to fail towards the middle of July, and

gradually grew worse until the plants were brown and withered. This is right in the open; in partial shade they are still fairly good. Finding there was no chance of pulling them round, I had the plants up towards the end of August, divided them as much as possible, dipped them in a thick puddle of soil and water and replanted, giving the beds a thorough dressing of half dry cow manure as they were dug up. This mode of increasing the stock was absolutely necessary this year, as cuttings on most varieties were not obtainable. When nice stuff can be secured I should, however, always propagate in the latter way. The argument is sometimes advanced, why trouble about this mode when you can split up the old plants either in autumn or early spring? I answer that with me plants from cuttings come earlier into flower, individual blooms are finer and the flowering season is more sustained; also, it must be remembered, that many varieties grown and known as Tufted Pansies have little or nothing of this particular habit, and growers who depend on this to secure a stock for another year are likely to be grievously disappointed. I have before suggested the elimination of many non-tufted varieties or those which only show this characteristic in the slightest form, and to simply class them as bedding Pansies possibly in some future lists we may hope to see this done. A straggling habit cannot be said to be totally foreign to the true tufted forms. All Pansies will run given certain conditions. A plant or two of Violetta for instance came up among a clump of Iris in a cool, shady position, and, strengthened doubtless by the heavy winter mulching placed on the Iris, they ran all over it by the end of the season, some of the shoots being over 2 feet in length.

THE CONTINUED DROUGHT.—It is difficult to estimate the after effects of this on what may be termed some of the permanent inmates of the flower garden, such as American plants, hardy Azaleas, and the majority of choice deciduous and evergreen shrubs. I use the word choice not as meaning anything particularly rare, but as applied to those plants which in their respective seasons help so much to beautify different parts of the garden. We are suffering considerably, especially on slopes that are more or less exposed to the sun. My own impression is that where plants are not actually killed, next season's bloom will be weak and poor and growth of the most meagre description, for the premature loss of leaf is not so much due to the direct influence of powerful sun on the same as to the drying up of many of the fibrous roots and consequent weakening of the constitution of the plant. On all light soils the value of a heavy winter mulching cannot in a season like the present be over-estimated. Almost anything to a certain degree will answer the purpose, that is if manure is not obtainable. Rough leaf soil or the dead foliage of such trees as Taxodium distichum will be found highly beneficial in preventing the drying out that comes with such a long-continued drought. Planting on soil above mentioned will be found in the autumn of '98 somewhat risky. Where it must be done I should strongly advise working round each plant a liberal dose of a compost consisting of two-thirds stiff road sidings and one of cow manure.

E. BURRELL.

Claremont.

Omphalodes Luciliæ.—It is usual that the foliage of this very rare and beautiful rock plant is of a glaucous or silvery grey tone on both surfaces, as also the petioles, but in raising seedlings of the plant it sometimes happens that this characteristic marking of the leaves is quite wanting, the leaves assuming a pale pea-green instead, and therefore losing somewhat of their natural charm. There is no apparent variation of the exquisitely beautiful flowers, which is a curious and interesting fact, seeing it is in these latter in most flowering plants, and such as are raised from seeds especially, that the variation usually takes place. But even the green-leaved form is worth growing should it appear, and both

are equally free and profuse in flowering. Where good plants exist, the earliest flowers should be near maturing seeds. These, to make sure, need looking over daily. A good way to make the seed secure is to put a hand-light over the plant, and if from any reason the plants cannot be looked over, put in an inch of sandy soil and allow the seeds to fall and germinate in the light. Growth, which is slow, does not usually take place until spring. At all times slugs are very fond of it.

GARDEN FLORA.

PLATE 1189.

THE SPECIES OF CAMELLIA.

(WITH A COLOURED PLATE OF C. DONCKELAARI AND C. SASANKUA VARS.)*

Now that the genus *Camellia* includes *Thea* (the Tea plant and its allies), it comprises about fifteen species in all. These are found mostly in India, China, and Japan, but the genus is also represented as far to the south of Asia as the Malayan Archipelago. In gardens it is almost exclusively represented by *C. japonica*, a species whose numerous forms fill an impor-



Camellia tree in the open air.

tant place in greenhouses and conservatories even at the present day when their popularity has greatly declined. The present plate, it is hoped, may direct the attention of horticulturists to the value of the *Camellia* as a hardy shrub. Hitherto, except in the extreme south and south-west, it has been almost entirely grown under glass, yet it has been proved that even near London, when given suitable positions, many of the varieties of the common *Camellia* are most valuable and striking hardy evergreens. The variety illustrated in the accompanying plate is an old and well-known one. Its flowers are amongst the brightest in colour and the prettiest and most informal in shape of all the garden varieties. The picture is of interest because the sprays were taken from a plant which has grown without the slightest protection in the *Rhododendron* dell at Kew for many years. About a dozen other varieties are also grown there. In places sheltered from north and east winds there need be no fear of their suffering from cold. We are not likely to experience a more trying time for

* Drawn for THE GARDEN in the Royal Gardens, Kew, by H. G. Moon. Lithographed and printed by J. L. Gofart.



evergreen shrubs than the early part of 1895, yet this variety Donckelaari and the others were not in the least affected then. Their lateness in starting to grow frees them from all danger of late frosts. The foliage of the Camellias is of itself a striking feature out of doors in this country, for we have no evergreen with foliage possessing quite the same lustrous black-green hue. The Camellias have the same dislike to very chalky soil as the Heaths, but with this absent they will thrive either in loam or peat. They appear to succeed best where there is a slight shade up to midday, but, on the other hand, fine specimens have been grown in positions fully exposed to the sun. I think the red semi-double varieties like that now figured are the best for out of doors. Brilliant red flowers of the same shade as this are very rare among hardy shrubs at any season and are particularly welcome in March and April. At the same time I would advise anyone who has spare Camellias of any sort or colour, even if not in the best of health, to give them a trial in the open air. They are of

There is a very interesting book, probably rare now, published in London in 1831, which deals with the species and varieties of Camellia then known. A beautiful coloured plate is given of each one described. The authors are Alfred Chandler and W. B. Booth.

C. RETICULATA. As a greenhouse plant there is no question but that this is the finest of all Camellias, yet, curiously enough, it is one of the rarest—rarer even than *C. Sasanqua*. Both at Kew and at Chiswick it has been grown with great success. The original plant was introduced to the gardens at the latter place by a ship's captain in the service of the East India Company in 1820. It was growing there till within a few years ago, but has been removed. Perhaps the finest plant in the country now is a specimen in the temperate house at Kew about 18 feet high. This is covered with healthy foliage and flowers freely and regularly. From all the forms of *C. japonica* (with their invariably lustrous leaves) it can be easily distinguished by the dull green colour of its foliage. Its flowers are the largest in the genus; they average 6 inches in diameter and are

tinues into the new year. The flowers are from 1½ inches to 2 inches across, and in the true wild specimens are said to be always white, but the cultivated varieties have pale pink to deep rose flowers, and we have them also both single and double. The Japanese name for this Camellia is "*Sasan-kuwa*," a modification of which has been adopted as the specific name. The leaves are small, about 2 inches long and 1 inch broad, with rounded teeth at the margin, and of a deep glossy green, which is in one form variegated with a creamy white. The species was first introduced in 1811.

C. EURYOIDES is a very curious species, probably not now in cultivation. It used to be employed by the Chinese as a stock on which to graft other species, and it was in this way it was originally introduced to Chiswick. Some grafted plants were imported in 1822 the grafts of which died, whilst the stock sprouted and grew, and, ultimately flowering, proved to be a new species. The present name was then given by Dr. Lindley. It is the smallest in leaf and flower of all the Camellias. The leaf is three-quarters of an inch to 1½ inches long, and the flower (which is white) half an inch across and cup-shaped. This species has latterly been found growing wild on the mountains of Formosa—a shrub 8 feet high—also in the Hupeh province of China.

C. ROSE-FLORA.—The history of this species is not known so far as regards its introduction to cultivation. It has been found in China and in Japan, although it is doubtful whether it is really a native of the latter country. It is a dwarf shrub resembling *C. Sasanqua*, but more lax and straggling in habit. It has small ovate-acuminate leaves of a dark glossy green and serrated. It flowers in December, the blossoms being single, 1½ inches across, and of a clear rose colour. It flowers every winter in the temperate house at Kew.

C. HONGKONGENSIS is cultivated at Kew, but has not yet flowered. It is a tree, and was discovered in Hong Kong about 1849 by Lieut.-Col. Eyre. In 1859 it was said that only three trees of the species were known in the island. It has a large leaf somewhat like that of a Cherry Laurel and rosy red flowers 3 inches across.

C. THEA (the Tea plant).—This is of little value as an ornamental plant, and is usually grown merely because of the interest attaching to a shrub so important to civilised nations. It is an evergreen, requiring the temperature of a cool greenhouse, and has oblong, very dark green leaves and small white flowers. The real native country of the Tea plant appears to be Northern India. It is doubtful if it be really indigenous to China. W. J. B.



Spray of the single white Camellia. From a drawing by Agnes Cook.

course moisture-loving plants, and the necessity of keeping them always damp at the root involves some care in watering plants that have just been turned out of pots in which they may have been growing for many years.

Camellia japonica is a native of Japan and is a common plant in the southern parts of the empire, where it becomes a tree 30 feet to 40 feet high. It first became known in Europe at the beginning of the eighteenth century, and a figure of it was published as early as 1702. Considering the great attention it has had in Europe and how much it has been improved under the cultivator's hands, it is curious to learn that it is less frequently to be seen in Japan than *C. Sasanqua*, and that it is valued more for the oil pressed from its seeds than for its flowers. This oil is used by Japanese women for dressing their hair. Professor Sargent observes also that in a wild state the flowers of the Camellia are red and do not open fully, the corolla remaining cup-shaped till it falls ("Forest Flora of Japan").

very frequently over 7 inches. They are semi-double, the central cluster of yellow stamens being surrounded by two or three rows of petals beautifully wavy and of a rich soft rose. I am not aware that this Camellia has been successfully grown out of doors in this country; in the warmer parts it would almost certainly thrive in the open, especially against a wall. In any case the coolest greenhouse suffices for it, and to those requiring fine shrubs for the conservatory nothing better can be recommended than this. Its flowers are entirely free from the stiffness and formality which have to so great an extent brought about the decrease in popularity of many forms of *C. japonica*. It is a native of China.

C. SASANQUA.—Compared with either *C. japonica* or *C. reticulata*, this Camellia is neither so showy nor so vigorous a grower. When seen at its best, however, it is a charming shrub. It is a native of China and Japan, and in the latter country appears to be more cultivated than *C. japonica*. Professor Sargent says that in the southern parts of the country it is very frequently met with as a small bushy tree. Both in Japan and in Europe it commences to flower in November, and con-

The "formal" garden.—In the discussion of all art now-a-days new and often needless words are used, often to make obscurity more obscure, and in any case giving more room to the numerous writers on artistic subjects, whose words are far more copious than their ideas. Of late the garden has been subjected to this, and now-a-days, if people have only a straight walk and a few level beds near it, it is called a "formal garden." The word is quite redundant, as, ever since gardens were made, judging by all the evidence we have, whether of Egyptian or Assyrian, or of Roman and Greek gardens, or tapestry and old pictures, necessarily all gardens about a human dwelling followed simple lines, and were, as regards plan, formal. In a recent issue of *The Studio* we noticed the words "Formal Gardens" in Scotland, and on examining the article to find out what it was about, we found a number of plans, sections of the courtyards and absolutely necessary roads, courts, and dividing lines about country houses.—*Field*.

Pteris tricolor.—Some capital examples of this Fern were to be seen at the Drill Hall last week, and if not large, were both well coloured and carrying several good fronds each. Though an old plant in cultivation, it is by no means an easy one to grow successfully, but is occasionally met with in good condition in the least expected

places. The plants referred to recall an instance in point where in an old lean-to greenhouse, in a much mixed assembly of odd plants, I found some years ago the finest examples I have seen. Nor was it any special culture that was responsible for the success in this case, as the gardener candidly informed me the plants shared the treatment given to all else in the house, and, what is more, the grower did not even know the plant he was growing. The house was only heated when frost was imminent, and at other times kept as cool as possible. This and the fact that the house was much shaded constituted the only items I could see that would in any degree account for the handsome, well-coloured, and perfect fronds produced by these plants.

THE WEEK'S WORK.

KITCHEN GARDEN.

ROUTINE WORK.—The prolonged drought is very trying to the vegetable crops that need ample supplies of moisture to make their growth before the winter season. Most of the Brassicas require copious supplies of moisture, and it often happens that watering is done under great difficulties, the supply in many places being none too plentiful. I find the best way is to give a thorough soaking, going over the crops several times in one day. The water then finds its way to the roots, and if a mulch of any kind can be given it will be of great benefit to the crop. Mulching is not always practicable, but it well repays in the end, and unless assistance is given to such crops as salads, early autumn Cauliflowers, and similar crops, the results will be poor. Many shifts may be made in giving a mulch, as even long straw litter placed over the surface will conserve the moisture. Late planted Broccoli, Kales, and Savoys will need more moisture than those which have been planted longer. These are most valuable after Christmas, and it will be well to keep them growing till we get rain to assist them. The earth being so warm, with a genial rainfall later on the growth will be rapid, and lost time will be made up if the autumn is favourable. The planting of the earliest spring Cabbage will, I fear, be delayed by drought. It is not advisable to plant unless moisture can be given regularly. On the other hand, much may be done by preparing the quarters and drawing drills. Seed beds should be given ample moisture, and in case there was thick sowing, it will be well to draw some of the largest plants to give others room and prevent them getting leggy. Lettuce seeds for early spring supplies will have germinated badly if not well supplied with moisture, and it will be well to make other sowings at once if the plants are at all short, as seed sown now will make fair plants for the spring planting. Late Peas in light soils are doing badly owing to the heat. It is a difficult matter to keep them growing and free of mildew, and it has been necessary to give repeated dressings of the mixture advised a few weeks ago. Mulching must not be overlooked even with the best soil and position, as the haulm is so liable to insect attacks. A thorough watering twice a week will be needed to keep the plants healthy.

RUNNER AND DWARF BEANS.—The Runner Beans will cease to produce freely unless given liberal supplies of water, as the flowers drop so badly. Much may be done to assist setting by pinching the tops and not allowing the plants to go above the tops of the sticks. The plants will also well repay liberal supplies of liquid manure. These given weekly will build up strong bottom growths, and from these will be obtained a later supply. The climbing French Beans will need more stopping than usual owing to the heat and drought. There is a tendency to gross top-growth and a naked base, and it is well to pinch the points to promote freer setting at the lower portion of the haulm. Few vegetables give a better return than this new type of Bean, and,

kept well fed, they will give a wonderful supply. The weather has been bad for dwarf Beans. Owing to the heat the plants in light soil have been attacked by red spider. To prevent this, nightly dewings overhead to maintain a healthy growth have been necessary. Plants sown for a late supply should be given ample moisture late in the day, and, if possible, a mulch of spent manure will be beneficial. I water overhead every evening.

SPINACH.—The seedlings raised early in August will need thinning if sown at all thickly, as with cooler nights and more moisture, growth for the next few weeks will be vigorous. It is not well to disturb the plants in dry weather unless the rows are watered previously, as it loosens them and they suffer badly. Should any pest attack the plants it is well to give dressings of soot, and if liquid manure can be spared, this will promote a large leaf-growth. In some places owing to drought the early autumn sowing is none too good. It is not too late now if the soil is moistened to assist germination. Sown thinly, the plants will be useful next April, at a season there are none too many green vegetables. It is well to sow a large kind. Carter's Long Standing is an excellent variety for the winter and spring supply, this giving large, succulent leafage and being very hardy. To save time at this late season I have found it advantageous to soak the seed before sowing for a few hours, and if sown in rather deeper drills than usual, not making level on the surface after sowing, it is an easy matter to give moisture during the early stages of growth.

ASPARAGUS.—With so little rainfall I fear Asparagus in raised beds and light soil will have suffered. Where Asparagus has had food given in the way of liquid manure, the growths are much better and still active. In any case few plants will better repay for food given, and in places where irrigation is possible there is no better means of culture. Beds that are forced should not suffer from want of moisture, and, failing liquid manure, it is not too late to give such aids as soot, salt, or other quick-acting fertilisers. It is better to give the latter in small quantities, well watering them in. Newly-sown or planted beds have had a bad season to contend with and growth will be later. The surface should be kept hoed over after giving moisture, and in case the seedlings are too thick, it is not too late to thin out, as this will give the plants a better chance in the early spring.

SEAKALE.—In light soils the plants have not made so strong growth as usual, and often after a spell of hot, dry weather we get a rainy period, which causes the plants to make a late growth. The latter is not desirable with plants needed for forcing. The old leafage may now be removed; I mean such as shows any signs of decay, as this will give more light and promote early ripening. All weed growth should be destroyed, but there will be few weeds if salt has been used freely. Plants not needed for lifting early, or those forced in their growing quarters, may still be given food, and any side or weak growths will need to be removed, as if left, the produce when forced is of no value, being too weak. To prevent the earliest plants making a late growth, I have cut down the sides with a spade. This does not harm the main shoot and the leafage ripens up. Of course such treatment is only necessary with a few plants needed to force at the end of next month, and does not apply to later supplies or young plants that are being grown for a late spring supply.

CELERY.—The heat and drought have not been favourable to the growth of Celery, but where moisture has been given freely the produce is fair. Moulding up should be done piecemeal. Previous to the earthing up it will be advisable to give a thorough watering, as if the latter is overlooked the plants will not winter well and become tough and run badly. Previous to giving fresh soil it will be advisable to give a dressing of soot. This is an excellent fertiliser; at the same time it keeps off slugs, and salt also adds to flavour if given in small quantities previous to watering.

Many give the final earthing up before the growth is sufficiently advanced. This causes decay in the centre of the plant, and should be avoided. I leave my plants as long as possible before earthing, only placing small quantities at one time to keep the plants erect.

TURNIPS.—The seeds sown a month ago have not made the progress one would desire owing to the drought, and it will be well to hoe frequently between the rows, as this in dry weather prevents the earth from cracking. Watering in many gardens will have been necessary in exposed positions. It will be well to water overhead at night. This will check the fly, and if dry wood ashes mixed with a little flowers of sulphur can be given when the plants are damp, the fly will not attack them, and all danger will be past when we get more moisture and cooler weather. In case the seed has failed to germinate, it will be well to make another sowing. Although full late, Turnips grow so rapidly, that they will soon bulb and be quite large enough for winter supplies. Such kinds as Red Globe or Model are excellent for late sowing. I noted the value of the yellow-fleshed varieties a few weeks ago. It is a good plan to cover the drills after sowing to assist germination, and to thin as early as possible to encourage rapid growth. S. M.

FRUIT HOUSES.

POTTING ORCHARD HOUSE TREES, &c.—One of the most important operations at the present time is the potting of these, preparation for which should be made without delay. I always like to have the early trees, that is those which are depended upon for first early forcing, potted during the latter end of the present month, proceeding afterwards with the work as continuously and persistently as possible until the whole collection is done. In every case, however, make an effort to get those for forcing attended to at once. Prepare a fresh batch of pots so as to have sufficient for a portion of the trees rather than be under the necessity of using the same pots again on the same day before they have had a chance of aeration or sweetening; wash these, and as cleanly as possible. The first to be used will no doubt have been washed, whilst any new ones hitherto not in use will need a thorough soaking previously. See that the crocks (or broken clinkers if potsherds be scarce) are clean also. Drain the pots liberally, and upon the drainage let a handful or so of rough Vine border compound be sprinkled, such as half-inch boiled bones, horn shavings, &c. (Bentley's coarse answers the purpose well). Avoid the use of cracked pots if not carefully wired; even then they are apt to deceive all but experts in watering. The soil best suited to pot fruits in general is what is known as Bantstead loam (in the south), with the addition of the top spit of an old pasture that is not so retentive or adhesive as the former, which, however, may predominate to a small extent. Take care not to break up the loam too much, some of the coarser portions being easily disposed of upon the drainage. To the loam add about one barrowful of old mortar or lime rubble to a cartload of soil, this being broken down to about the size of common nuts. About one-fourth, or at the most one-third, of bone-meal should also be added, or in its place a smaller portion of artificial manure in which there is a good percentage of phosphates. Some well-decomposed manure that will crumble up finely should also be added, such as that from the farmyard, failing which, that used for Mushroom beds will answer the purpose. Neither road grit nor sand is needed unless all of the loam has a tendency to be heavy. Mix together well and be prepared to protect the heap should heavy rains threaten. A slight damping after the long period of drought will be beneficial rather than otherwise. The question is often asked, "Do we pot the trees every year, and if so, are the roots reduced?" The answer is, "Yes" to both queries. The trees should be potted afresh every season, even those that may not have borne good crops of fruit. Do

not be led away with the idea that it will be better not to pot these; as a general rule it is best to pot every tree, but in doing this do not commit the far too frequent error of over-potting, this being the crux of the whole question with many growers. To pot into larger pots without reducing the old ball at all is not to be thought of. The strong succulent roots need reducing, and so do the fibrous ones, otherwise some of these latter must decay in due course. When a tree is seen to be making sufficient growth with a proportionate amount of sound fruiting wood, so that the pot does look small to its size, then a larger pot may be chosen, but only one size larger even then. For the next two years at least that tree will not stand in need of a larger pot. It is a fatal mistake not to repot trees that have borne good crops, for these will have practically exhausted the soil within their reach. Reduce the balls in every case, and that sufficiently to secure room for conveniently ramming the new soil firmly, this, too, being an important matter. Never attempt to hurry through the potting; if this be done it cannot be performed as it should be. Leave sufficient room for watering, also bear in mind the top-dressing during growth next season. After potting stand the trees in as open a spot as possible, so long as they do not stand in danger of being blown over. Water once directly afterwards and syringe daily for a time if it be not showery. Guard of course against standing the trees upon the soil so as to endanger them against the incursion of worms, as these may afterwards cause a deal of trouble. Special care should be taken with Cherries in pots not to overpot them in the slightest degree. At the same time the loam for these may be slightly less manured, but in other respects the same. Do not in any case hesitate to re-pot because the leaves have not fallen. So long as the growth has ceased and the wood is well ripened there need be no delay. It is much better to re-pot early in order that the roots may again be on the move as soon as possible. Trees now in bearing in the latest houses need to be watered carefully, taking care not to overdo them when the fruit is ripe. Those which are relieved of their crops should at once be placed outside in a sunny position, but do not re-pot these yet. Leave them rather for at least another month, by which time the foliage will be well hardened, and any sappy tendency in the wood reduced too. Add to the stock as the requirements may arise; a few fresh additions every year will allow of a year's rest to those trees which have borne heavy crops for years in succession. Do not think of potting up trees from open quarters with the view of forcing them. One might as well attempt to run in a race without any previous training for that specific purpose. Even for late fruiting it should not be expected to see any such results the first season afterwards, preparation being essential to success.

LATE FIGS NOW FRUITING.—As I am writing these lines, one cannot but contrast the changeable character of the weather. During the day-time the thermometer stood at 87° in the shade, and within forty-eight hours therefrom the grass in the open was white with frost. If any Figs are, therefore, now left upon outside trees which promise to ripen, let them be protected at night at least by means of canvas, but, better still, by glass as well. Figs planted out in houses and now finishing up their latest fruits (or second crop) will need warmth to fully develop their good qualities. At least 60° at night should be maintained, 5° more being better if the latest fruits be still in the green stage. Guard also against any excess of moisture, otherwise cracking or splitting will ensue; this may not altogether matter if only slightly apparent, but it often happens to be more than is desirable, causing decay ere the fruits are matured. Both Negro Largo and Nebian are liable to this failing as well in pots as in open borders, but more so in the latter case. Late Figs in pots which were retarded as long as possible in the spring are now yielding good returns, promising to do so for a

long time yet. That this is the better plan for late crops of Figs is beyond any doubt, being evident to anyone who has had any experience at all. The varieties just named are about the best and most promising now, the latter being nearly a month later than the former, which is now ripening its first fruits. At the time of writing both Figue d'Or and Bourjassotte Grise are in excellent condition, too. Figs in pots for late fruiting should have the benefit of light and well-ventilated houses, but such as can be sufficiently warmed for the purpose to a minimum temperature of 65° by night, otherwise the condensation of moisture will act injuriously during the damper and possibly foggy weather of the next month and onwards. Be extremely careful now in the watering, taking care both not to water in excess to the slightest degree as well as to avoid drought, the safer and better plan being not to allow this work to change hands at all. Young stock from eyes or cuttings this spring will not infrequently show a few fruits, this season having been favourable to this tendency. If this be the case, it will be advisable to ripen the fruits even at the expense of keeping them in warmth longer than would otherwise be attempted. Any increase in the stock of pot Figs from outside should be made without delay, selecting them to suit the circumstances, whether dwarf or otherwise.

HORTUS.

FRUIT AND VEGETABLE CROPS.

NORTHERN.

Crofton Hall, Wakefield.—In this garden there is a fair crop of Apples; in the surrounding district the crop is light. Pears are quite a failure. Plums are also a light crop; Strawberries and Raspberries very good. Bush fruits are very good; Black Currants excellent.

Vegetable crops are doing well.—CHARLES WATTS.

Lowther Castle, Penrith.—Apples are under average; Pears the same; Plums under; Cherries average; Apricots under; small fruits over, very good, and Strawberries over, very good. Royal Sovereign and Countess are two excellent varieties. Of the former I gathered five fruits which weighed half a pound.

The season has suited the vegetable crops, which are all good.—F. CLARKE.

Edenhall, Langwathby, R.S.O.—The fruit and vegetable crops in this neighbourhood are all that could be desired. We were troubled with occasional late frosts, but no serious damage was done. Apples and Pears are a good average crop. Plums are very thin, while Apricots and Cherries are good. Morello Cherries are very heavy and the fruits very fine. Strawberries have been a heavy crop of nice fruits. Raspberries are good, and all bush fruits are a heavy crop of nice clean fruits.—ARTHUR C. SMITH.

Ripley Castle, Yorks.—The show of blossom on all fruit trees in the past spring was phenomenal. The resulting crops are, I am sorry to say, not in proportion to the promise. This I attribute to the cold weather during the latter part of April and through May, which caused the young fruits, especially Plums and Cherries, to fall in great numbers. Apples are erratic, some varieties carrying a full crop, others none at all. Amongst those bearing most abundantly may be mentioned Warner's King, Ecklinville Seedling, Lord Suffield, Grenadier, Mère de Ménage and King of Pippins. The fruit is free from blemish and gives promise of developing to good average size. Pears are under an average as regards crop, but the quality gives promise of being good. Those bearing most freely are Jargonelle, Marie Louise, Citron des Carmes, Louise Bonne of Jersey, Glou Morceau, Moorfowl's Egg and Althorpe Crassane. Plums are a very thin crop and the trees have been terribly infested by blight; Cherries a poor crop all through. Apricots are good, ripening rather later than usual.

Gooseberries, Red and Black Currants and Raspberries are heavy crops; Strawberries a heavy crop, but fruits small owing to drought.

It has been a very trying season for vegetable crops, owing to the drought, which in this district made itself more manifest upon crops in the garden than during either of the preceding dry seasons. Peas have cropped well, but the season of each sowing has been a short one. Late varieties after the recent heavy rains will, I hope, be more continuous in their cropping. The Brassica tribe has given a great deal of trouble; grub has been prevalent, and never before have I been troubled with so many going blind. Carrots are the worst crop I ever had. Potatoes are good, crop heavy and quality excellent. Onions are splendid and do not seem to have felt the drought. All other vegetables are good.—J. TUNNINGTON.

MIDLAND.

Gopsall Gardens, Leicester.—The weather here during the time when the fruit trees were in bloom was anything but favourable for a good set of fruit, rough winds and heavy rains prevailing. The effect of these was very apparent, especially on the Apples, Pears, and Plums, which crops are below the average. There are but few fruits in this district. Of Apples, Lord Suffield, Manks Codlin, Cellini, and Northern Greening are the best; and of Pears, Easter Beurré, Beurré Diel, Beurré d'Aremberg, Glou Morceau, and Louise Bonne of Jersey. Of Plums, Victoria is good; all other varieties quite a failure and the trees affected with insects, necessitating a great deal of labour in getting them clean. Apricots have done well. They were well protected during the blooming and setting period, and we are well repaid with a grand lot of fruit above the average in quantity and quality. Peaches also are good. Strawberries are up to the average, Royal Sovereign coming out well, also Sir Joseph Paxton and Auguste Boisselot, especially on the two-year-old plants. Morello Cherries are good, although this has been a troublesome season with the black aphid. Dessert Cherries are not grown outside, but under glass have been very good; Gooseberries, Red and Black Currants a full crop, and quality well up to the average.—J. LEE.

Thoresby Hall, Notts.—Fruit promised to be abundant and set well, but owing to the cold cutting winds and little sun after setting they did not make a move, but dropped off. Of Apples we will have a fair average crop. All small fruits are plentiful and of good quality. If the weather continues so cold I am afraid Apples and Pears will be poor, both as regards size and quality.

The vegetable crops in this district were not nearly so early as usual. On June 15 we had a sharp frost, which killed Potatoes and dwarf Beans, and gave a severe check to all tender things; what with the east winds and little sun all early vegetables were considerably later than usual.—A. HENDERSON.

Alton Towers, Cheshire.—The fruit crop around this district cannot be considered very satisfactory. Apples are poor and below the average, and the trees have been much blighted. Pears are very thin. Stone fruits are a complete failure, with the exception of Cherries, which are fairly good. Small fruits are plentiful and good, especially Gooseberries. Strawberries are abundant, but rather small, which no doubt is attributable to the long spell of dry weather we experienced soon after the bloom was set. Nuts are over the average, and promise from present appearances to be very good.

Vegetables on the whole are very satisfactory. Early Potatoes were rather a light crop, but late varieties look very promising. Onions and Carrots are excellent, and quite free from the mite, which I attribute to spreading wood ashes in the bottom of the drills previous to sowing the seed.—E. GILMAN.

Nostell Priory.—The fruit crops in this neighbourhood as far as Apples, Pears and Plums are concerned are disappointing. With such a profusion of bloom it was hoped there would have

been an abundance of fruit, but usually such a wealth of flowers is followed by a scanty supply. In the gardens here we have a nice average crop of Apples and Pears. Ribston Pippin, Cox's Orange, King of the Pippins, Cox's Pomona, Lane's Prince Albert, and some few others had to be relieved of a portion of their crop. Last year it was noted by many that the older trees were by far the most satisfactory; this year it appears to be the reverse. Of Pears, Jargonelle, Williams' Bon Chrétien, Louise Bonne of Jersey, Conseiller de la Cour, Beurré Diel, Victoria and Bergamotte d'Esperen are heavily cropped. Plums and Damsons I regret to say are a complete failure; even the reliable Victoria is but sparsely fruited. Apricots are good and set enormous crops, as also Cherries, both dessert and Morello. Gooseberries, Currants and Raspberries are plentiful; Raspberry Superlative is an enormous cropper, strong grower and resists drought better than any one I grow. Strawberries were good, especially the first pickings; later fruits were small and the crop soon over. Cottage gardens I regret to say are very thin of that the most valuable of all family fruits, the Apple.

Vegetable crops are satisfactory. Broccoli lasted well into June, then that excellent Cauliflower Veitch's Extra Early Forcing came in before the former was over and kept us going. Peas and Beans are good, but want rain. Potatoes are good, with no sign of the dreaded disease.—J. EASTER.

Barkby Hall, Leicester.—Apples are good in this garden and fair average crops in the neighbourhood. The winter moth is not quite so troublesome in this neighbourhood as it was a few years ago. The Apple leaves have had a fungus which is somewhat like the scab fungus, but I have never known it to come so early before (June 12 when first seen), nor so prevalent. In this garden I sprayed with potassium sulphide, 1 oz. to three gallons of water, which prevented further mischief. Of Pears I had a good show of bloom, but fruit dropped very much after setting. The cold north winds seemed to be the cause in some cases. The crop on the whole is below average. Plums also bloomed splendidly, but did not set, owing to cold north winds apparently. The crop is almost a failure in this neighbourhood. Cherries are below the average, while Apricots and Peaches are excellent crops. Gooseberries and Currants (both Black and Red) are very heavy crops. Raspberries and Strawberries are good heavy crops. Greenfly on fruit trees and Roses has been unusually abundant this year.

Vegetables, like most other things, are very late. Early Potatoes are rather light. Onions are good and free from maggot. Carrots are good, but the fly has been troublesome.—J. LANSDELL.

Chatsworth.—Generally speaking the fruit crops in this neighbourhood are good with the exception of Plums, which are very poor. Apples and Pears are an average crop; Cherries over the average; Gooseberries, Red and White Currants above the average; Black Currants and Raspberries an average crop; Strawberries above the average, and good fine fruit.

All kinds of vegetables are growing freely. Potatoes are looking very well. The early varieties are very good, with no signs of disease at present. The late kinds also are looking very well and give promise of a good crop.—WM. CHESTER.

Hopton Hall, Wirksworth.—Strawberries President and British Queen are a good crop, though smaller than usual. Black, Red, and White Currants are grand crops. Gooseberry trees were broken down with the heavy crop. Of these I have planted out 1000 seedlings this spring. This crop has never failed me—mostly standard trees. They last about twenty-one years as standards; the same with standard Currants. Cherries Morello, May Duke, and Late Duke are good crops. Plums are very few, Transparent and Green Gages, Victoria, and Early Prolific being light crops. Damsons are a complete failure, though early prospects were good. Apples are a marvellous crop (except Lord

Suffield, which is a complete failure); Lord Grosvenor is weighed down with fruit. Duchess of Oldenburg, Irish Peach, King of Pippins, Ecklinville, Potts' Seedling, Newton Wonder, New Northern Greening, New Hawthornden, Royal George, Bramley's, Warner's King, Worcester Pearmain, Margil, and others have very heavy crops. Raspberries are very good, especially Superlative; this variety is producing a fine late crop.

Potatoes are excellent. The old Walnut Leaf and Lemon Kidney have very good crops of specially good flavour. Onions are very good; Tripolis very fine. All Brassicas are very late.—GEORGE BOLAN.

Crewe Hall, Crewe.—Fruit crops on the whole are disappointing. There was plenty of bloom on nearly all fruit trees, and as there was not much frost nor severe weather in the spring it was hoped the crops would be very abundant, but as it is they are only moderate. Pears are about an average crop; Apples rather under; Peaches and Nectarines rather under; Apricots over; Strawberries and Raspberries hardly up to average, and fruit smaller on account of the dry, hot weather at the time of ripening. All small fruit is plentiful. Plums and Damsons are poor, and the trees, as with Cherries and some others, very much attacked by aphides, from which they are only now recovering.

Vegetables of all kinds are very good and plentiful. Potatoes are very healthy and bearing good crops of healthy tubers, with no symptoms of disease up to now.—WM. WHITAKER.

Allerton Priory Gardens, Woolton, Liverpool.—Strawberries are a poor crop, but bush fruits and Raspberries are good. Apples and Pears are poor, and Cherries fair. The prevalence of bad weather with cold driving winds during the flowering period destroyed what promised to be an abundant set. The trees, Plums especially, have been badly attacked with insects.—J. J. CRAVEN.

Alfreton Park.—Fruit I am sorry I cannot say much for. Stone fruit is very poor; small fruits, such as Gooseberries, Currants, &c., are good; Pears poor. Apples here are very fair, but poor in neighbourhood.—G. M. KNIGHT.

Orton Hall, Peterborough.—Some of the fruit crops in this neighbourhood are very indifferent, others good. Of small fruits, Strawberries, Currants, and Gooseberries have been plentiful. The Black Currant mite, however, has made a difference with many. It appears worst on the Black Currant bushes that are overhung with other trees, such as the Plum and Apple. Black Currants I find this season are about double the price of the Red. Plums are a very scanty crop, especially in the open quarters; Nuts appear to be plentiful; Peaches and Apricots are a fair crop. Apples are not so plentiful as was anticipated from the abundant show of bloom, still there are fair crops of some kinds. Pears with me are much below the average; Duchesse d'Angoulême in the open has a fair crop, but Pitmaston Duchess on walls and in the open has scarcely any fruit.—A. HARDING.

The Gardens, Middleton Hall, Tamworth.—Apples are under average, but quality good; Pears under; Plums under, but good; small fruits plentiful; Strawberries average, good. In the early spring there was a bright prospect for a good fruit harvest, but the cold nights and late spring frosts entirely blighted those prospects.

The vegetables in general are good. Potatoes (early) have been very good, tubers free from disease; the late ones look well and good crops may be expected.—J. W. BROWN.

The Gardens, Shavington Hall, Market Drayton, Salop.—The fruit and vegetable crops in this district are very good generally speaking. Strawberries were a good crop, but failed to swell up satisfactorily on account of dry weather. Apricots have been a good crop. Among Apples, Lord Derby, Lord Grosvenor, Warner's King, Ecklinville, Hawthornden, and Dumelow's Seedling are well laden with fruit; Cox's Orange Pippin,

Ribston Pippin, King of the Pippins, Bismarck, &c., are carrying an average crop of fruit. Pears are good, especially Williams' Bon Chrétien, Marie Louise, Clapp's Favourite, Louise Bonne, Pitmaston Duchess, Doyenne du Comice, Beurré Diel, and Winter Nelis.—T. BENNETT.

Synnerton Park, Stone.—Apples, Pears, and Plums in this neighbourhood are a very poor crop; Damsons almost a failure; Cherries, Strawberries, Raspberries, and all kinds of Currants are most abundant.

Vegetables of all kinds have been very good, but are later than usual.—JAMES TURNER.

Mickleover Manor Gardens, Derby.—Strawberries and all kinds of bush fruit, including Currants and Gooseberries, are bearing very heavy crops. Apples are almost a failure; even Duchess of Oldenburg has but the tenth of a crop; Pears are almost a complete failure; Plums on standards are a failure, as last year; on walls there are a few in sheltered nooks. I notice a fair crop of Plums on some cottage gables in this neighbourhood.

Vegetable crops are good, especially Potatoes. Peas have been good, but soon over.—J. CAMPBELL.

WALES.

Margam Park Gardens, Port Talbot, South Wales.—Strawberries have been good here. The best were Royal Sovereign, Latest of All, and Leader; Monarch also did well, the fruits being very fine. Red Currants are very good; Black Currants a moderate lot; Gooseberries a fair crop; Raspberries a good crop. Apples are a moderate crop and the quality promises to be good. Pears are a very uneven crop; Plums a poor crop; Cherries (Morellos) are good; Peaches and Nectarines are very good.

Outside vegetables have been very good here and plentiful.—J. HOLLINGWORTH.

Wynnstay, Ruabon.—On the whole this season will, I believe, be a good one, and as we have at last got a welcome rain at time of writing I think we shall get better size in Apples and Pears than expected. Strawberries were a splendid crop and Royal Sovereign was well to the fore. Noble I shall discard, also Sensation and Competitor, in favour of the above-named.

Vegetables, taken on the whole, are good this year, the only exceptions with me being Parsnips and Carrots. Onions are grand, without a trace of maggot. A very cold spring has made us at least three weeks later with most things than usual.—F. FAIRBAIRN.

Bodnant Gardens, Tal-y-Cefn, R.S.O., Denbighshire.—With the exception of Apples I have good all-round average crops. Apples bloomed very well, but owing to a continuance of cold weather they failed to set well. Some trees on low walls are carrying heavy crops, likewise some others trained on the roof of a north shed.

Vegetable crops are very promising. Potatoes so far have turned out clean and heavy.—J. SAUNDERSON.

Gorddinog.—Apples and Pears are fair, some trees being well cropped. Of Apples, Alfriston, Cox's Orange Pippin, Ecklinville Seedling, Stirling Castle, Cellini Pippin, and Cox's Pomona are the best. Of Pears, Beurré Diel, Pitmaston Duchess, Williams' Bon Chrétien, Louise Bonne of Jersey, Marie Louise, and Conseiller de la Cour have good crops. Plums are scarce, also other stone fruit. Bush fruit is excellent; Strawberries medium crops. Many of the first fruits were disfigured through want of sunlight and so much dull, wet, cold weather at the time of flowering. The two best varieties have been Vicomtesse H. de Thury and Royal Sovereign. The latter should have an open situation and be planted 2 feet 6 inches each way, the leafage being so robust.

Vegetables are plentiful; early Potatoes a very heavy crop. Ringleader is much liked here, being very early. Late ones are looking promising. Kidney Beans, both dwarf and runners, were difficult to get a plant, the first sowing failing in

many places in this neighbourhood. The early part of May was too wet and cold for them. The second sowing is doing well, though a little late. All the Brassica family are doing well. Celery and all root crops are very promising. —W. COATES.

Slebech Park, Haverfordwest.—The fruit crops in this district are almost a complete failure this season, as wet, cold, stormy weather prevailed during the time that the trees were in bloom. We did not get frost, but had very low night temperatures with damp. Apples bloomed well, but I have very little fruit except on some young trees. Pears are also a very poor crop, although there was an abundance of good healthy bloom. Plums promised a grand crop. They were a mass of bloom and set well, and then dropped off, even the Victoria and the common Damson dropping almost every fruit. Small fruits and Strawberries were a splendid crop. Cherries, Peaches, and Nectarines are not much grown in this county. —GEORGE GRIFFIN.

Cardiff Castle.—The fruit crops in the gardens here, with the exception of Plums, are good. Many of the Apple and Pear trees are weighed down with fruit to the breaking point and the branches have had to be propped up with strong stakes to prevent them snapping off. The long-continued drought during the months of June and July experienced in this district was detrimental to the fruits swelling in the early stages of growth, and a great many dropped, greatly benefiting the over-cropped trees. The points of the shoots of Apple trees were badly infested with aphids this season, and the leaves were curled up and blackened to a degree which I have never seen before. But after the affected points were cut off the trees made fine clean growths, and now they are healthy and vigorous, and the rain we have had since the beginning of August has much improved the size of the fruits. Plum trees were covered with flowers, but the fruit did not set on the trees in the open quarters, and but sparingly on the wall trees, all of which have been badly crippled with aphids this year. The Strawberry crop was good, but, owing to the drought, of short duration. I grow a great many varieties here, but depend chiefly upon the following for producing good crops of excellent quality: Royal Sovereign, President, Vicomtesse Hélicart de Thury, Gunton Park and Scarlet Queen. —A. PETTIGREW.

The Gardens, Gogerddan, Aberystwith.—Apples and Plums are an average crop; Pears under average; Cherries, Gooseberries and Currants are good; Damsons are very scarce. Apricots and Peaches are not grown in the open about here. Apples and Pears will be small and not up to the usual quality.

Vegetables are fairly good. Early Potatoes have been good and the late ones look well. Peas have been a good crop, also Cabbage, but vegetables in general are very late. —J. VEAREY.

Nevill Court, Abergavenny.—The season on the whole has not been good for outdoor fruit and garden crops generally. We had one of the finest shows of bloom on record on all kinds of fruit trees in this district, but the severe and cutting east winds destroyed the greater part of the bloom before it was well open, after which blight of all kinds, especially mildew and black aphids, followed, causing a great amount of labour and free use of insecticides to save any crop at all. In sheltered nooks in the valleys I have observed good crops of Apples and Cherries—more especially White Heart and Bigarreau. Apples bearing good crops on dwarf trees are Irish Peach, Quarrenden, Beauty of Bath, Duchess of Oldenburg, Red Astrachan, Wormsley Pippin, Beauty of Stoke, Albury Park Nonsuch, Welford Park Nonsuch—in fact, all sorts on bush trees are bearing well. Apples on standards are under average; Pears and Cherries are over average; Peaches, Nectarines, Apricots, and Plums are all under average; Nuts of all kinds are abundant and good; Raspberries abundant and good; Strawberries excellent; Gooseberries, Black, Red, and White Currants are good crops. Of Straw-

berries, Veitch's Perfection, Monarch, Leader, Royal Sovereign, President, Noble, Sir J. Paxton, Sir Charles Napier, and Waterloo have been excellent.

The crops in the kitchen garden are later this year owing to the cold spring and east winds, which were very keen. Early Potatoes are turning out well, but they are smaller than in previous years owing to lack of rain. Sharpe's Victor, Old Ashleaf, Veitch's Improved Ashleaf, and Ring-leader have been especially good; Early Puritan is now turning out good tubers, of excellent quality and size. Cauliflowers Extra Early Forcing and The Pearl are excellent for early work. Autumn Giant and Self-protecting, as well as Brussels Sprouts, Kale, and late Broccoli, are looking excellent. French and Runner Beans were later this year, but they are now abundant and good. Veitch's Early Favourite is the earliest French Bean I know. Onions, Parsnips, Carrots, Turnips, and Beetroot are looking well in every way and free from maggot. Stanstead Park Cabbage Lettuce is excellent to sow in autumn for an early spring supply. There is no better Lettuce than a good strain of the old Tom Thumb Cabbage Lettuce for a summer supply. —JOHN CHINNERY.

SCOTLAND.

Carron House, Falkirk.—There never was a finer promise of fruits throughout my sixteen years of experience in this locality than during the past spring, every bush and tree being loaded with blossom and mostly every species set abundance of fruit, but the cold and sunless weather of May and June did much to blight one's prospects. The nights were very cold, and the thermometer was often down to the freezing point in early morning. Notwithstanding such untoward weather, there is on the whole abundance. Apple trees have shed much of their crop, but plenty remains. Plums of the hardier sorts are a fair crop; Morello Cherries abundant; Red and White Currants, which have been lifted and replanted several times, have a heavy crop of fine fruit. Black Currants suffered severely from the frost on the night of May 15, but where the sun did not strike on them in the early morning they suffered less. The same may be said of Gooseberries and Strawberries. Having tried many varieties of the latter, I find that it would be waste of ground to retain some of those which are lauded for their excellence by many cultivators. John Ruskin is the earliest which I have tried, but is soon over. Royal Sovereign was a week later than the former, but the fruiting period is of short duration. Were I to grow only two sorts they would be Vicomtesse Hélicart de Thury and President. These two along with Elton Pine are favourites in most districts of Scotland. Some sorts which I grew in England with much satisfaction are almost worthless in Scotland.

This is one of the best vegetable seasons I have known in the north. Potatoes have looked well from their earliest appearance above ground, excepting some of the first crops, which were cut down to the surface of the soil by the severe frosts in May. The kidney varieties are a fine crop, but much smaller than usual. Veitch's and Belvoir Kidneys are the best this season; Sutton's A 1 is first-rate in every respect; Early Regent is very good; Snowdrop is, as in former years, a special favourite, and comes much the same as Sharpe's Victor, but, of course, much later. All the Brassica crops have been satisfactory. Cabbages are the best I ever had. Six sorts planted on unbroken ground (after Onions) were unusually fine, with an absence of outside leaves. Broccoli treated in this way also did capitally. Onions were never more promising; both autumn and spring sowings on trenched heavy ground are all I could wish. Cauliflowers have been fair, but some of the earliest sorts have come in prematurely. Roots generally are barely equal to what they are in some seasons. The continuous winds have dried up the ground very much, but

the damp nature of the soil has not yet suffered by drought. In some gardens which are elevated and the soil light, rain is much wanted. Where trenching is well done there is little to complain of. Poor and shallow land is much in want of moisture. Field crops never looked better. Turnips are excellent. —M. TEMPLE.

Dunrobin Castle, Sutherland.—Fruit, flowers, and vegetables are ten days to a fortnight later than usual. Some of the earlier-blooming fruits were a good deal injured by the inclement weather in May. Early Strawberries, particularly Royal Sovereign, were a failure. Late kinds did well, particularly Elton Pine. Most of my supplies were obtained from this trustworthy old kind, and at this date (August 18) it is still in bearing, and will be for a fortnight to come. Raspberries have done well, particularly Superlative, which is an undoubted acquisition. Black, Red, and White Currants are plentiful and good; Pears scarce; Plums under average. There are good crops of Apples on some trees, mostly late-blooming kinds. —D. MELVILLE.

The Hirsell, Coldstream.—As to the fruit crops here I never saw a more encouraging outlook while the trees were in blossom, but especially in regard to Pears. At the most critical time, from the beginning to the middle of May, we had a spell of cold, sunless weather, as much as 6° frost, which did a lot of mischief. Apples, being later, did not suffer so much. The same remark applies to the other fruit crops. The results to date are thus: Pears are average; such sorts as Beurré Diel, Beurré d'Amanlis, Williams' Bon Chrétien, and Doyenné du Comice have over-average crops. Apples are over an average; such sorts as Manks Codlin, Stirling Castle, Ecklinville, Lane's Prince Albert, and Devonshire Quarrenden will require to be thinned. Plums are an average crop; Rivers' Early Prolific, The Czar, and Victoria have full crops. Cherries are an average crop, Morellos being over. Small fruits are most abundant. Owing to the dry weather Strawberries had but a short season.

Vegetables have done fairly well considering the season we have had. A cold May and severe drought till now were two very important factors that had to be faced. The former difficulty is not easily got over; the latter is made less harmless by heavy manuring and deep cultivation where the ground will admit. Deep trenching is the sheet-anchor of good vegetables. I have had over-average crops of Peas, Cauliflowers, Potatoes, and such-like crops. —J. CAIRNS.

Terregles, Dumfries, N.B.—The fruit and vegetable crops in this district are on the whole giving a fairly good return. The weather during March, April, and May was very unfavourable for the growth of early vegetables, and after an unusually mild winter excessive rains set in early in spring accompanied with a cold, damp, fluctuating temperature, which retarded the growth of early crops and to some extent damaged the fruit trees and bushes all over the western districts of Scotland. A great improvement in the weather took place during the first fortnight in June, and early crops made rapid progress, but such important things as early Potatoes, Cauliflowers, Cabbages, Carrots, Peas, Spinach, &c., were quite two weeks late in coming into use. Both field and garden Potatoes look well everywhere, and the only complaint I hear of is that very early varieties have given a light return this year. The prospects are that the main crop and later kinds will make good the deficiency. Growers, however, are not likely to command such good prices this year as compared with last. In this immediate neighbourhood we have had very little rain during the month of July, and at this date crops are suffering very much from the continued drought. Apples and Pears will give nothing more than an average return of fruit in this district, while Peaches, Nectarines, and Apricots are a very thin crop. Plums are a good crop all over. Wall-trained trees especially are giving an extra fine return. Small fruits, including Raspberries and Strawberries, are a splendid

crop, and with the dry weather we have had they are being gathered in excellent condition.—
JOHN MACKINNON.

TREES AND SHRUBS.

CARPENTERIA CALIFORNICA.

THIS, botanically related to the Mock Oranges, we fear is not a perfectly hardy plant except in such favoured spots as the Isle of Wight, the Devon and Cornish coasts, and the warm and southern parts of Ireland. It is one of our more uncommon shrubs that may be successfully grown and flowered in pots, and where kept in a greenhouse temperature it blooms as a matter of course earlier than in the open ground. In

the open ground or trained to a wall, it is, of course, seen to greater advantage than when confined in pots; still, where not quite hardy there is no reason why it should not be grown and flowered under glass in the manner described. Now that this has become well distributed about the country, it would be useful to hear from growers of it in different parts as to its behaviour, more especially in reference to its hardiness. The present season is the best for propagating this *Carpenteria*, for cuttings of the young growing shoots, if put into pots of sandy soil, will with ordinary care and attention root readily enough. The frame must of course be kept close and shaded till the cuttings strike. An ordinary cold frame is very useful if set apart for the propagation of hardy shrubs during the summer months, for a great many of

American home assumes the character of a small tree 20 feet or more in height. Specimens of this size or nearly so may be occasionally met with on this side of the Atlantic, and very picturesque they are. This *Rhus*, when not more than a dozen feet high, is essentially a tree, with a clear stem and rather wide-spreading head of irregularly disposed branches, round the points of which the large deep green pinnate leaves are arranged. The flowers are borne in dense terminal spikes standing clear of the handsome foliage, and just now these spikes, which are a kind of velvety red, form a very noticeable feature. They remain in this state a considerable time, and even in the winter when devoid of foliage these flower clusters give to the tree an uncommon appearance. Besides its natural habit of a small tree this *Rhus* also readily lends itself to another totally different mode of treatment, and that is, if a bed is filled



Carpenteria californica in a Devonshire garden. From a photograph sent by Mr. R. Kelly, Kelly, Lifton, Devon.

the spring, when the majority of outdoor shrubs are only just pushing forth their leaves, a specimen of this *Carpenteria* studded with its large white blossoms is not only a very beautiful object, but quite distinct from its other associates in the greenhouse. It may be kept in health for years in a pot, provided it is after flowering hardened and plunged outside during the summer months and well on into the autumn. If kept under glass altogether, the foliage is very liable to be attacked by red spider, which soon causes it to wear a sickly look. The heavy dews so prevalent in early autumn seem to benefit this *Carpenteria* greatly when it is grown in pots, and for this reason it should not be taken under cover before it is absolutely necessary. Treated as a shrub in

our most beautiful kinds may be struck from cuttings of the young growing shoots, taken just as they have lost their more succulent character and become moderately firm.

Mr. R. Kelly, Kelly, Lifton, Devon, who kindly sent us the photo from which the illustration was prepared, writing to us, says:—

The *Carpenteria californica* is 6 feet high and 7 feet wide. It is growing against a south wall, and was planted in its present position six years ago.

The Stag's-horn Sumach (*Rhus typhina*).—Several species of *Rhus* are entitled to a place among our ornamental shrubs, and in nearly the whole of them the leaves die off very brightly tinted. One of the largest members of the genus is the Stag's-horn Sumach, which in its North

with young vigorous plants and they are cut back hard each year, and the young shoots limited to one or two, very large leaves will be produced, and the effect will be equal to any sub-tropical subjects that require heat and attention throughout the winter. When cut back in this manner some of the shoots will flower, but of course not so freely as in the case of old established tree-like specimens. *Rhus typhina*, in common with several other members of the genus, may be readily increased by means of cuttings of the roots, which soon form plants that grow away freely.—H. P.

A Laburnum avenue.—I lately at Cromer saw an avenue made entirely of Laburnums. The variety was the common *L. vulgare*, growing on stems 6 feet high, the growths trained to a single stout wire arched over a path 8 feet wide. The

plants were 4 feet apart, twenty on each side. The archway was, therefore, 80 feet long. Judging from the quantity of seed-pods hanging from the branches, this archway must have presented a glorious picture when the Laburnum was in bloom. At present the archways have got nicely covered, and as growth proceeds, which from the healthy appearance of the plants is rapid, a system of spur-pruning the side shoots will be necessary to restrict the growth and preserve the individuality of the trees.—E. M.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 20.

At the meeting held on Tuesday there was no falling-off in the exhibits, the hall being filled from end to end, several of the groups being rather too crowded, thus spoiling their effect in a great measure. Hardy flowers, considering the season we have just passed through, were excellent. The Dahlias of every section and Gladioli were well represented, while the display of Roses was wonderful. The groups of *Acalypha hispida* and *Salvia splendens grandiflora* showed the value of these two plants. Fruits, too, were well represented, vegetables also being well to the fore.

Orchid Committee.

Awards of merit were adjudged to the following—

CATTLEYA INTERTENTA (C. Mossie × C. Warneri).—The sepals and petals are of fine form and substance, pale rose, suffused with a darker shade towards the centre, lip rich velvety crimson, margined with pale rose, the side lobes rose, suffused with crimson, lined at the base with bright yellow lines. It is a most distinct and desirable variety, and worthy of every consideration. From Messrs. J. Veitch and Sons, Ltd.

LÆLIA SPLENDENS (L. purpurata × L. crispa).—In this the sepals and petals are pale rose, much crisped at the margin, the front lobe of the lip wholly crimson-purple, heavily fringed and margined with white, the side lobes white, becoming suffused with yellow, lined and suffused with deep purple at the base. It is similar in many respects to L.-C. exoniensis, but is longer in the front lobe of the lip and altogether finer than that variety. Messrs. J. Veitch and Sons.

MILTONIA BINOTI.—A supposed natural hybrid between *Miltonia candida* and *M. Regnelli*. The sepals and petals are buff, with large light brown blotches and a suffusion of rose at the base; the lip, fairly intermediate between the two species from which the hybrid is supposed to have been derived, is pale lilac, suffused with purple, and veined with a darker shade of colour. It has five raised light-coloured ridges at the base, the centre one being yellow. It is of free habit and a most distinct and desirable form. From Sir T. Lawrence, Bart., Burford Lodge, Dorking.

MILTONIA LEUCOGLOSSA.—This is one of the most distinct hybrids we have seen. The sepals and petals are greenish white, spotted with violet-purple. The large open lip is pure white except at the base, where it has a violet-purple suffusion on either side of the yellow ridged disc. In habit it resembles *M. spectabilis*, and is probably a hybrid between that species and *M. candida*. From Sir T. Lawrence.

Messrs. J. Veitch and Sons, Ltd., sent a choice group. In the back row were finely flowered *Oncidium Marshallianum*, a good form of *O. tigrinum*, and a lovely dark form of *O. crispum* with remarkably large flowers. *O. incurvum* was also well represented. The most prominent among the *Cattleyas* were *C. Warscewiczii*, with three spikes of flower, and a dark form of *C. labiata*. The hybrids, as usual, were well represented, the most distinct being *C. Chloris* (*C. Bowringiana* × *C. maxima*), in which the sepals and petals are delicate lilac, the lip rose at the margin, becoming veined and suffused with crim-

son-purple towards the centre and through the throat. *C. Wendlandiana* (*C. Warscewiczii* × *C. Bowringiana*) has the intermediate characters of both parents, the sepals and petals bright rosy lilac, the front lobe of the lip rosy crimson, becoming suffused in the centre with a darker shade of colour. It has the yellow eye in front of the throat as seen in *C. Warscewiczii*. *C. porphyrophlebia* (*C. intermedia* × *C. superba*) is a pale form with a deep rose-tinted lip. *Lælio-Cattleya Nysa* (*C. Warscewiczii* × *L. crispa*) was represented by six plants, each plant differing in a remarkable degree both in shape and the darker colouring of the flowers. *Cologyne Veitchii* bore three spikes of its pendulous pure white flowers. Several finely-flowered *Miltonias*, *Dendrobiums*, and *Cypripediums* in variety, both of species and choice hybrids, were also included (silver Flora medal). Messrs. Hugh Low and Co., Bush Hill, Enfield, sent a choice group, consisting of dark forms of *Vanda cœrulea*, finely-flowered *Oncidium*s, several dark forms of *Cattleya Loddigesii*, *C. velutina* with two spikes of flowers, and a good form of *C. porphyrophlebia*. In *Lælio-Cattleya Pallas* the sepals and petals are pale rose, marbled with white, the lip rich crimson-purple except through the throat, where it is prominently lined with yellow. *L.-C. intermedio-flava*, raised from the species indicated in the name, has the sepals and petals pure white, the lip creamy white, suffused and lined with rich rose-purple. Among the *Cypripediums* were good forms of *C. Sanderianum*, *C. Harrisianum superbum*, *C. Chas. Canham* with three flowers, good forms of *C. picturatum*, and *C. Charlesworthi* (silver Banksian medal). Messrs. F. Sander and Co. sent *Odontoglossum grande*, *Cypripedium purpuratum*, and two plants of *Dendrobium atro violaceum*.

Mr. C. H. Fielding, Southgate House, Southgate, was awarded a silver Banksian medal for a large group, consisting of about forty finely-flowered plants of *Dendrobium Phalaenopsis*, the colours varying from light rose to rich rose-purple, with crimson-purple lips. The plants were finely grown and the flowers fine in substance and form. A fine plant of *D. bigibbum*, several forms of *Cattleya Gaskelliana*, good forms of *C. Loddigesii*, and various hybrids and species of *Cypripediums* were also included. Sir T. Lawrence sent a fine plant of *Oncidium longipes* with ten spikes of its small yellow and dark brown flowers; and *O. trulliferum*, a miniature-flowered variety, with thick clustered spikes of yellow and small brown spotted flowers. A fine plant of *Miltonia spectabilis* with twelve flowers was awarded a cultural commendation. A dark form of *M. Moreliana*, good forms of *M. Clowesi*, and a grand form of *M. Blunty* var. *Lubbersiana* were also sent. Mr. J. Coleman, Gatton Park, Reigate, sent a dark variety of the natural hybrid *Cattleya Hardyana*. Mr. C. L. Ingram, Elstead House, Godalming, had *Lælio-Cattleya T. W. Bond* (*C. labiata* × *L. purpurata*), a lovely hybrid, sepals and petals pale lilac, the large lip pale rose in the centre, becoming suffused with rich crimson-purple and veined with a darker shade of colour, the side lobes rose, suffused and lined with yellow at the base. Mr. J. W. Moore sent a dark form of *Vanda cœrulea*, and from Frau Ida Brandt, Zurich, came cut spikes of *Angraecum Ellisi* and *Odontoglossum Lindleyanum*.

Floral Committee.

The following novelties obtained first-class certificates:—

PANDANUS SANDERII.—This may be described as a greatly improved form of *P. Veitchii*, quite surpassing the old kind in the more distinct and golden variation, which in the old kind is of a silvery hue. This variegation is very telling, and, judging by the examples shown, is equally retained in large and small specimens. From Messrs. Sander and Co., St. Albans.

LIGUSTRUM WALKERI.—What this species may be when large plants are secured is difficult to determine. In our opinion the plant is by no means attractive in its present form, and, as we

know, such things are valueless from a flowering standpoint. The plant differs from others of its race by a more tree-like form, i.e., an erect central growth with twiggy branches, on which latter the small green undulated leaves are alternately placed. From Messrs. Paul and Son, The Old Nurseries, Cheshunt.

The following obtained the award of merit:—

CHRYSANTHEMUM LOUIS LEMAIRE.—An early-flowering form of which only flowers were shown. We have, therefore, no clue to habit, height, general freedom or decorative value. The colour is bronze and yellow, the former largely predominating. From Mr. Wells, Earlswood, Redhill.

CHRYSANTHEMUM MAY MAUSER.—A pure white kind, which if a *bond fide* early kind will prove of much value. It is somewhat inclined to the reflexed type. From Mr. H. J. Jones, Lwisham.

POPULUS ONTARIO VARIEGATA.—A golden variegated form of the well-known Ontario Poplar. From Mr. J. Carter, Willow Bank, Keighley.

ADIANTUM FAULKNERI.—No group of Ferns is more diversified than the *Adiantums*, yet this kind compares with none of them. It is an especially graceful and elegant kind, the pinnae small, yet not so minute as in *A. gracillimum*. In colour it is of the yellow-green shade. A small group was shown, the whole being quite uniform in size and colour. From Mr. T. Rochford, Turnford Hall Nurseries, Broxbourne.

ACER JUHLKEI VARIEGATUM.—A distinct and well-marked plant, in which the variegation is white, rather blotched or marbled than otherwise. From Messrs. Paul and Son, Old Nurseries, Cheshunt.

ALTHEA (HIBISCUS) TOTA ALBA.—A plant too well known to need description here, the variety being represented by a small handful of about half-a-dozen sprays. From Messrs. Paul and Son, Cheshunt.

GYNERIUM ARGENTUM AUREO-LINEATUM.—One of the most elegant and beautiful plants we have seen, the habit generally smaller and the leaves narrower than in the type, the leaves arching so that the tips reached the ground. From Messrs. J. Veitch and Sons, King's Road, Chelsea.

DAHLIA COUNTESS OF LONSDALE (Cactus).—A distinct and novel kind, in which orange-salmon and pink are combined. From Messrs. Keynes, Williams and Co., Salisbury.

DAHLIA PROGENITOR (Cactus).—A crimson-scarlet, having the tips of the florets split into several divisions, giving a forked or horned appearance to the flower. From Messrs. Keynes, Williams and Co.

DAHLIA VISCOUNTESS SHERBROOKE (Cactus).—A finely formed flower of an orange-scarlet hue. Messrs. Keynes, Williams and Co.

DAHLIA THE CLOWN (Cactus).—This is also of an orange-scarlet tone, and tipped heavily with white. Messrs. Keynes, Williams and Co.

DAHLIA THE DUKE (Pompon).—A prettily formed flower of a ruby-crimson shade. From Messrs. Keynes, Williams and Co.

DAHLIA WATCHMAN (Fancy).—Deep yellow, flaked with crimson and scarlet. From Messrs. Keynes, Williams and Co.

DAHLIA WILLIAM NEATE (Show).—A flower in which the predominant red-orange tone is shaded by a delicate fawn. From Messrs. Keynes, Williams and Co.

DAHLIA ANTELOPE (Cactus).—A good self of capital form, and ruby-scarlet in colour. From Messrs. J. Burrell and Co., Cambridge.

DAHLIA LUCIUS (Cactus).—A striking flower of a decided shade of scarlet-orange. From Messrs. J. Burrell and Co., Cambridge.

DAHLIA IRIS (Pompon).—A salmon yellow, tipped with a very delicate lilac tint. From Mr. C. Turner, Slough.

DAHLIA CLARIBEL (Pompon).—A medium-sized flower of a puce shade with white base. From Mr. Chas. Turner, Slough.

DAHLIA LESLIE SEALE (Single).—A flower of medium size, rose colour, with heavy crimson base. From Mr. V. Seale, Sevenoaks.

DAHLIA SNOWFLAKE (Pompon).—Very pure white, of good form. From Mr. V. Seale.

DAHLIA DISTINCTION (Pompon).—A very distinct flower, ruby-red in colour and compact in form. From Mr. V. Seale.

DAHLIA DEMON (Pompon).—A pretty flower of excellent form, and rich self crimson in colour. From Mr. V. Seale.

DAHLIA DAVID JOHNSTONE (Show).—Pale salmon buff, delicately suffused with lilac-purple, particularly in the younger stages of the flower; a most distinct kind. From Mr. G. Humphries, Chippenham.

DAHLIA RANJII (Cactus).—An exceptionally dark flower, the predominant shade being blackish maroon, the tips of the florets wine colour. It is also good in form and not too large. From Mr. G. Humphries, Chippenham.

On this occasion one of the most varied and interesting collections was that from Messrs. Paul and Son, The Old Nurseries, Cheshunt. In this lot the Roses were an especial feature, particularly good being *Perle des Jardins*, *Mme. Hoste*, *Mme. P. Cochet*, *W. A. Richardson*, *Maréchal Niel*, *Caroline Testout*, *Augustine Guinoisseau*, the white form of *Rosa rugosa*, as also the double white *De Coubert*, *Bardou Job*, and many more. Very good, too, were the Cactus Dahlias, these embracing all the best known kinds. A few of the best of the Cactus kinds were *Mrs. Webster*, *Gloriosa*, *Miss Box*, fine crimson; *Mrs. C. Turner* and *Lady Penzance*, both fine yellows; the old *Juarez*, still a good flower; *Harmony*, and *Starfish*. A nice lot of the pompon kinds was also set up, the whole fresh and well grown and pleasingly arranged. Many interesting plants were here also, notably some handsome baskets of *Meadow Saffrons* in variety, these latter including the well-known *C. speciosum*, *C. tigrinum*, *C. byzantinum*, *C. maximum*, &c. A fine lot of the new *Physalis Franchetti* was noticeable. Other good showy things included *Rudbeckia Newmanii*, *Aster bessarabicus*, *Montbretia crocosmiæflora*, a capital bunch of *Senecio pulcher*, and the pure white *Anemone Lady Ardilaun*. Flowering sprays of *Erythrina crista-galli* taken from a plant forty years old and from the open air proved the hardy character of this showy subject. Several large baskets were filled with flowering examples of *Cyclamen hederæfolium*. *Phlox Etna* and *P. Coquelicot* were the brightest of scarlet shades. Other things of more than passing interest were *Clematis coccinea*, *C. Duchess of Albany*, one of the *C. coccinea* hybrids, and the very distinct *C. graveolens*, with its small, though decidedly yellow flowers. A silver-gilt Flora medal was awarded. Another attraction at this meeting was the magnificent collection of cut spikes of *Gladiolus*. Many of the spikes carried a dozen fully developed blossoms, the first and last being apparently of a uniform freshness, so admirably were they got up. This fine exhibit came from Messrs. J. Burrell and Co., Cambridge. There were nearly 200 spikes of these showy flowers. There were many named sorts, but the best spikes were to be found in the numerous seedlings staged, a fact alone bearing the highest testimony to the strain grown by the Cambridge firm in question; and when we further state that nearly, or quite, one half of this group was made up of unnamed seedlings, the quality of the latter will be more fully apparent. The one end of this group was finished with Cactus and pompon Dahlias in variety, the other end with the hardy hybrid forms of *Gladiolus Lemoinei* (silver-gilt Flora medal). From *Crawley*, Messrs. J. Cheal and Sons brought a fine all-round exhibit of Cactus and pompon Dahlias, also a smaller lot of show kinds. These included all the leading kinds of those now in commerce. A few good ones are *Cycle*, *Duchess of York*, *Harmony*, *Fusilier*, *Fantasy*, *Lady Penzance*, *Miss Webster* (very pure white), *Mrs. C. Turner* (fine yellow), &c. The singles in this group were very fine, the flowers singularly fresh and good in form, and of the right size (silver Flora medal). Messrs. Wm. Paul and Son, Waltham Cross, set up a grand exhibit of cut Roses that

showed the resources of the firm where these flowers are concerned, quite one half of one of the centre tables being occupied with beautiful flowers, many being in very good form. Those shown included representatives of all sections, and these, too, in good substantial gatherings. Others, again, were in baskets, and, again, larger lots in boxes, and so forth. A few of the most telling were *Mrs. Grant*, *La France*, *Xavier Olibo*, *Mme. P. Cochet*, *Maman Cochet*, *Marquise Litta*, *Mme. Hoste*, *Perle d'Or* (an exquisite lot of buds and blossoms), *Alfred Colomb*, *Marie van Houtte*, *Caroline Testout*, *Queen Mab*, *Enchantress*, *Mme. de Watteville*, *Souv. de Catherine Guillot*, *W. A. Richardson* (beautiful and rich in colour), *Sylph*, *Francisca Kruger*, *Niphetos*, the lovely *Empress Alexandra of Russia*, and many more (silver Flora medal). *Mr. Leopold de Rothschild*, *Gunnersbury House*, *Acton* (gardener, *Mr. Jas. Hudson*), sent a dozen splendid examples of the new *Acalypha hispida* (*Sanderi*) set in a thin ground of *Maiden-hair Ferns*. The plants were about 3 feet high, grown to a single stem, and carried an almost endless number of the rosy crimson inflorescences. Grown in this way, the ample leafage on long petioles acts as a sort of support to the inflorescence, which, by being borne over it, produces a distinctly graceful result. The rapidly increasing number of these coloured appendages, with the colour so long retained, renders them of the greatest value in decoration. From the same gardens also came a fine group of the brilliant *Salvia splendens grandiflora*, the plants raised from seedlings and cuttings, and flowered abundantly. Most of the plants were between 4 feet and 5 feet high (silver Flora medal). Ferns were again represented by a large assortment of *Davallias* from *Mr. H. B. May*, *Lower Edmonton*, who had got together some fifty species and varieties of these Ferns, many of which possess exceedingly graceful fronds difficult to describe in detail without the use of many technical terms. A few of the more distinct are *Davallia fijiensis*, *D. f. plumosa* (very fine), *D. f. effusa*, *D. f. gracillima*, a most elegant kind; *D. f. major*, *D. f. robusta*, all pleasing and graceful in their delicate fronds; *D. ornata*, *D. hirsuta*, *D. madagascariensis*, *D. Griffithiana*, *D. Mooreana*, a most useful plant; *D. tenuifolia Veitchii*, of a yellow-green tint, and with singularly small pinnae that give an impression of being partly suppressed till a close view is obtained. In this group the beauty and value of the many forms of *D. fijiensis* with their dark and heavy fronds in some instances is especially noteworthy (silver-gilt Banksian medal). Then from *Earlwood* what may be taken as the first representative exhibit of early Chrysanthemums was set up by *Mr. W. Wells*, and included a large number of mostly well-known kinds, the whole arranged in free bunches. Very good were *Mme. Marie Masse* and *Edmund Duval*, a good white, which with *Market White* and *Mychett White* form a trio of good things all early and free. *Queen of the Earlies*, *Mme. Liger Ligneau*, yellow; *M. Zephir Lionnett*, orange-yellow; *Jeanne Vuillermet*, crimson-chestnut; *Harvest Home*; and *Ambroise Thomas*, red-orange, were among the best. Many pompons were also included, such as *Longfellow*, *Golden Fleece*, *La Petite Marie* and *Toreador*, a neatly formed flower of a red-orange and yellow shade (silver Banksian medal).

From the *Hale Farm Nurseries*, Messrs. T. S. Ware and Co., Ltd., brought a fine lot of Cactus and other Dahlias, that included some exceedingly fine and well-grown blooms, unfortunately too much crowded. The flowers were simply a densely-arranged bank in which of necessity many colours clashed. The blooms, however, were in every way excellent, and the condition of the exhibit in question was due to the generally crowded state of the hall on this occasion, which was full to overflowing. Apart from the exhibit of Dahlias, which was one of the most comprehensive at this meeting, was a good assortment of *Cannas* in many leading sorts, while here and there various grasses, Bamboos and sprays of *Asparagus* afforded some slight

relief to the great mass of colour in the flowers (silver Banksian medal). Another group of Chrysanthemums in pots from *Mr. J. Witty*, *Nunhead Cemetery*, was arranged near the entrance in half-circular fashion. There were some good flowers in this group, but we have no sympathy with the hoisting up of pots of *Maiden-hair Fern* to the very level of the flower-heads so frequently practised in this case. The foliage in well-grown Chrysanthemums is not only the most natural in such a case; it is also the best foil for the flowers, which are rarely too thickly placed when the pots are used in which the plants have grown. Varieties of *Mme. Desgrange* were frequent, also pompons and other early sorts, together with a plant of a so-called hairy kind—no names were attached—(silver Banksian medal). From *Mr. Chas. Turner*, *Royal Nurseries*, *Slough*, came some three dozen sorts of the best Cactus Dahlias, the flowers fresh and bright-looking, arranged in an open and free manner, so that individual worth could be seen. *Lady Penzance* and *Mrs. Chas. Turner* were especially fine, as also *Miss Webster*, *Beatrice*, *Night*, *Ethel*, *Alfred Vasey*, and many others; a few good hybrid pompons were also shown (silver Banksian medal). Another fine lot of Dahlias came from *Mr. S. Mortimer*, *Farnham*, *Surrey*. In this case, however, a large number of show and fancy as well as Cactus kinds was shown, the former of excellent finish and in considerable variety. The Cactus varieties were arranged in fan-like bunches behind and as a central block, and in this way made a very effective arrangement (silver Flora medal). From *Mr. J. G. Foster*, *Brockhampton*, *Hants*, came a capital exhibit of *Sweet Peas* for so late a date; the varieties, however, included nothing fresh in these flowers so far as variety is concerned (silver Banksian medal). *Cannas* were sent in some twenty varieties from the garden of *Lady Freake*, *Fulwell Park*, *Twickenham*, the spikes having been cut from plants in the pleasure ground, and for this method of culture, in so trying a year, were very good (bronze Banksian medal). The Messrs. *Veitch and Sons*, *Chelsea*, as usual contributed a small series of flowering shrubs, in which were several varieties of *Hibiscus*, such as *H. de la Veuve*, rose, lilac and crimson; *H. elegantissimus*, white, crimson, and pink; *H. Comte d'Hainaut*, white and crimson, inclined to doubling; the pretty blush-flowered *Abelia rupestris*; *Bignonia grandiflora*, with orange-scarlet flowers; *Caryopteris mastacanthus*, a pleasing shrub, with pretty blue flowers in axillary clusters; *Gynerium argenteum albo-lineatum*, an erect-growing Pampas, with narrow leaves, lined white; and *G. a. Rendatleri*, a splendid example, sending forth its silvery plumes to a height of 9 feet or more. Of these handsome plumes there were about two dozen, in varying stages of development, which for the size of the root-stock would indicate a remarkable freedom of flowering. The plant possesses a fine vigorous habit withal.

Fruit Committee.

The fruit committee had its full share of exhibits, much space being taken up with collections of Apples and Pears. We fail to see what advantage there is in showing fruit that will be in season next spring, and which would have been better left on the trees for another month. Let the fruit that is shown be ripe and in season, and then some good will be done and lessons as to the value of the varieties and their season of ripening taught. What good, for instance, does showing *Bramley's Seedling* in September do? Grapes were more numerous than usual, not large bunches, but well coloured. The new perpetual Strawberry *St. Joseph*, from *Gunnersbury House*, was an interesting exhibit.

An award of merit was given to—

STRAWBERRY ST. JOSEPH.—An excellent medium-sized fruit of a pale red colour, flesh firm, and with a brisk refreshing flavour. This is a most useful variety, as it prolongs the Strawberry season, the newly-made runners bearing fruit freely, thus making it a valuable autumn kind.

Both parent plants and runners of this summer's growth were showing fruit in quantity. From Mr. J. Hudson, Gunnersbury House, Acton; Messrs. G. Bunyard and Co., Maidstone; and Messrs. Cannell and Sons, Swanley.

Messrs. Wm. Paul and Son, Waltham Cross, sent a collection of fruit trees in pots. The Peaches were very fine, as were the Figs and Apples; such kinds as Bramley's, King of Tompkins Co., Bismarck and Lord Derby were excellent. In the front of the group was a collection of Apples, gathered fruits. The best was Lord Sutherland. Pea-good's Nonsuch, Lord Derby, Lady Henniker, Blenheim Orange, Cellini, The Queen, Warner's King, Pott's Seedling and Stirling Castle were also very fine (silver-gilt Knightian medal). Messrs. Luig and Sons, Forest Hill, staged 100 dishes of Apples and Pears. This firm had the best Pears in the hall, the fruits being specially fine for the season. Souvenir du Congrès was excellent, as were Duchesse d'Angoulême, Pitmaston Duchess, General Toddleben, Durondeau, Marie Louise, Bon Chrétien and Louise Bonne of Jersey. Of the cooking Apples, Hollandbury, The Queen, Bramley's, Lord Derby and Bismarck were the best; while of the dessert varieties, Barnack Beauty, Duchess of Oldenburg, Gravenstein, and Lady Sudeley were excellent (silver-gilt Knightian medal). Messrs. Peed and Sons, Roupell Park Nurseries, had 100 dishes of fruit nicely arranged. There were Grapes at the back, the varieties being Gros Maroc, Alicante, Golden Queen, and Muscat of Alexandria. The Apples were mostly well-known kinds and good. Cellini was good, as were Tyler's Kernel, Lady Henniker, Queen Caroline, Chelmsford Wonder, Lord Derby, and Wealthy. Dessert varieties were good, though not quite so large as usual. Pears were also of good size (silver Knightian medal). A most interesting collection of fruit came from Mr. G. Kelf, South Villa Gardens, Regent's Park, including Grapes, not very large bunches, but the berries well coloured, the varieties being Muscat of Alexandria and Alicante, six bunches of each. A very good bunch of Musa Cavendishi, Melons Blenheim Orange and Holborn Favourite, Plum Golden Drop, and Tomatoes in variety were here included (silver Knightian medal). Mr. W. Roupell, Harvey Lodge, Roupell Park, S.W., brought an interesting collection of fruit to illustrate the lecture. There was a nice lot of Figs in pots in a small state, these having been grown in the open. The Grapes comprised Diamant Traube, Gros Colman, and Muscat of Alexandria. A nice lot of Apples, with some half-dozen kinds of Tomatoes, was included in this collection (silver Knightian medal). An excellent lot of fruit, Pears especially, came from Mr. Roberts, St. Saviour's, Jersey. One expects to see fine fruits from Jersey, but the Apples, except in very few cases, were not above the average. Marie Louise, Uvedale's St. Germain, Williams' Bon Chrétien, Winter Nelis, Louise Bonne of Jersey, Durondeau, and Vicar of Winkfield, under the name of Bon Cure, were very fine, the best Apples being Emperor Alexander, Warner's King, and Mère de Ménage, the dessert kinds not calling for special mention (silver Banksian medal).

A very fine collection of Plums came from Mr. Hudson, Gunnersbury House Gardens, Acton, in twelve varieties. The fruits had been grown on trees in pots under glass, and were remarkable for their splendid finish and size. Grand Duke was specially fine, as were Monarch, Coe's Golden Drop, Late Rivers, Reine Claude de Bavay, Impératrice de Milan, Ickworth Impératrice, Guthrie's Late Gage, Transparent and Late Transparent, with Rivers' Orange. In this collection were excellent fruits of Melons Eureka, Triumph, Frogmore Orange, Hero of Lockinge, Sutton's Scarlet, and a seedling (silver Banksian medal). Mr. H. Guydt, gardener to Mrs. Gabriel, Streatham, staged a good collection of fruit, the Grapes Gros Maroc, Black Hamburg, and Alicante being well finished; a good collection of cooking Apples, with several varieties of Crabs and a few dishes of Pears completed this collec-

tion (silver Banksian medal). Mr. Miller, Ruxley Lodge Gardens, Esher, staged some excellent Peaches, Princess of Wales and Barrington being specially fine, with a nice lot of Brown Turkey Figs, good Pears and Apples, mostly kinds noted in other collections; Plums also were good, the best being Jefferson's and Kirke's (silver Banksian medal). Mr. Robinson, Elmsfield House Gardens, Hollingbourne, sent a nice lot of Grapes in variety, Melons in variety, Sea Eagle, Princess of Wales and Lord Palmerston Peaches, Dr. Jules Guyot Pear, and some Apples. With this was a collection of vegetables in twenty-four varieties, the best being Standard-bearer Celery (silver Banksian medal). From the Society's Gardens, Chiswick, were sent 100 dishes of Apples. These in most cases were well-known varieties, but there were some dishes well worth notice for their distinct character. The fruits had been grown on small bush trees planted in March, 1896, and had this season suffered from drought. The new Rivers' Codlin was very good, as were Rivers' Early, Allington Pippin, and Barcelona Pearmain. The collection was given a cultural commendation. Peach Devonian came from Messrs. Veitch, Ltd., Chelsea, a new Melon from Messrs. Foot and Son, Sherborne, Dorset, but past its best, and Plum Pond's Seedling, fine fruits, from Mr. A. Ball, Cottenham, Cambs.

A new Tomato called Up-to-Date was sent by Mr. J. Green, The Nurseries, Dereham, Norfolk. It is of excellent quality, but very much like Conference. A new Tomato from Mr. Roberts, Jersey, is similar to Perfection. Mr. Empson, The Gardens, Amptill House, Beds, staged a remarkably fine collection of Onions in fourteen varieties, eighteen bulbs of Record turning the scale at 44½ lbs. There was a great heap of this kind, certainly one of the best as regards shape, size, and keeping qualities. Excelsior, Cocoa-nut, Holborn, Lord Keeper, Rousham Park, Ailsa Craig, Golden Globe, Red Globe, Magnum Bonum, and Brown Globe were all excellent (silver Knightian medal).

The Society's great annual show of British-grown fruit takes place at the Crystal Palace on Thursday, September 29, and the two following days. Entries should reach the R.H.S. office, 117, Victoria Street, S.W., by September 24. On each day of the show, after 10 a.m., Fellows of the Society (on producing their tickets) are admitted to the Palace free.

NOTES OF THE WEEK.

Hydrangea paniculata grandiflora is one of the best of deciduous-flowering shrubs this year, and this in spite of the great heat. In such cases, however, well-established examples will fare better than newly-made plantations. Any such instances of success are worth recording, to act as a guide in future work.

Plumbago Larpentæ.—This pretty perennial is now flowering freely, and forms quite an exceptional bit of colour in the garden. The dwarf, tufted character of the plant, spreading as it does quite freely, is not sufficiently rampant to over-run other things, and in flower is among the best bits of blue of the early autumn.

Tufted Pansies from Chirnside.—I sent you by yesterday's post some blooms of Tufted Pansies, but by mistake omitted to send the names or from whom sent. The white variety is named Pearl Jean, and has for the first season been a profuse bloomer and the habit of the plant very dwarf. The colour is a very pretty shade of white, the shape and size of blooms being extra good.—C. STUART.

Cyclamen hederifolium vars.—At the Drill Hall on Tuesday the type, as also the white form, were well represented. Even without their leaves they are singularly beautiful. It is surprising how well these succeed in permanent positions, and not a few corners in the rock garden or hardy fernery may be made more beautiful by their presence in early autumn. In the exhibit in question there would

be at least 200 or 300 of the flowers fully open, sufficient to form a good idea of the effect of such things in the garden.

Potentilla nepalensis.—Though one of the most striking of the species in respect to colour, and therefore one of the most ornamental, there is ever the drawback apparent of its rather straggling habit of growth. A form that could combine a more compact habit would be equally good for many reasons, and for the rock garden more satisfactory. This may, indeed, be readily achieved by raising a few seedlings of the plant and making selections. The species is a very profuse bloomer, but does not produce a big display at any one season.

Sedum maximum purpureum.—When seen in a good-sized clump there is a distinctness about this plant that, rightly employed, renders it effective in the garden. This is due to the colouring of the leaves, which has given rise to the varietal name above. In habit of growth the plant is 2 feet high or thereabouts, and flowers during the early autumn months. The foliage is ample, and even as an isolated example the plant is quite attractive in the rock garden.

Tufted Pansies and the drought.—These have in some places suffered very severely this year—autumn-planted ones perhaps the most. In the cooler north the loss is not felt in the same degree, these plants thriving best in the north and west, where there is a heavier rainfall. Mr. Sydenham, writing us from Tamworth on the 16th, says: "I find where they are left too severely alone in warm summers they soon get mildewed. My lawn beds look worse than I ever saw them. The plants are quite dried up, and look, as you say, as if scorched with fire."

Lobelia Gerardi.—A small circular bed of this kind may be seen in the grass at Kew, alongside one of the chief walks to the main entrance by the green. The plant does not appeal to one as particularly distinct or pleasing in its tone of colour, and appears very much like what has been raised freely and oft in the seedlings from *L. siphilitica*. It belongs to the herbaceous section of these plants, all of which have had a most trying time this year, for unless the root fibres were in touch of moisture, failure more or less was almost a certainty.

Androsace lanuginosa.—Few alpine are more generally charming than this one, and few have borne with such impunity the great and trying heat of the passing year, and still this excellent plant flowers with unceasing profusion, and after making gay its immediate surroundings for weeks in succession still promises its pretty heads of bloom for some time to come. These are the plants that are more than welcome in the rock garden, and being of good habit and perfectly hardy withal should be always prominent in any good collection. Moreover, the plant is easily cultivated and readily increased.

Spanish Broom.—Nowhere have I seen this Broom (*Spartium junceum*) growing and blossoming so freely as in the sandy soil around Cromer. Quite close to the sea it appears to be at home, growing vigorously and producing its deep yellow fragrant flowers abundantly from July until September. Planted in masses, such clumps present a gorgeous sight when in full bloom, and as yellow flowers in the shrub-beries are somewhat scarce at this season of the year, this shrub is all the more desirable. The flowers are produced in terminal racemes, and are useful for cutting.—E. M.

Lilium rubellum.—Your July 2 number just to hand. I see amongst "Notes of the Week" an article, by Mr. E. M. Webb, Nottingham, in reference to *Lilium rubellum*. It may interest your readers to know that this lovely Lily comes from Northern Nippon, where the winters are very severe, and there is no doubt that it will prove hardy in England. It is the only variety of Japan Lily which flowers in spring. Its bulbs are the first to ripen of all the varieties, therefore we can export in July-August with *Lilium longiflorum*. Another very valuable characteristic is that *L. rubellum* can be forced like *L. longiflorum*,

and will prove therefore a good Easter plant.—A. UNGER, *Yokohama*.

Rudbeckia tomentosa.—The hay-scented Coneflower is deserving of a place in the garden, and is apt to be overlooked in purchasing a selection of the numerous autumn-flowering yellow composites. Its distinct-looking foliage, greyish in colour and rather rough to the touch, looks pleasing along with the bright yellow flowers, with their dark—almost black—flattened central cone. *R. tomentosa* is not so much injured by drought as *R. speciosa*, but this year it has had to be watered several times, its drooping leaves showing its need of a supply of moisture. The flowers have an odour like that of new-mown hay.—S. ARNOTT.

Ceanothus Gloire de Versailles.—At the present time this variety of *C. azureus* is flowering magnificently against the southern front of the mansion at Melton Constable. The plants are each about 12 feet high, and in some cases they are growing along with *Ampelopsis Veitchii*, the deep green and, in some instances, bronzy-tinted leaves of the latter making an excellent background for the pale blue blossoms of the *Ceanothus*. The plants of *Ceanothus* are closely spur-pruned yearly, which preserves a neat appearance, and from the rod-like stems numerous vigorous shoots are yearly pushed and which flower abundantly.—E. M.

—On the garden front of Orchardton, Castle Douglas, N.B., this *Ceanothus* has been very beautiful this season. A well-established plant like that at Orchardton flowers freely, and forms a most attractive feature on a house or wall. The plummy clusters of flowers look most beautiful, and it is gratifying to see that it can be grown so well in Kirkcudbrightshire. Mr. Robinson-Douglas has been experimenting with some of the less hardy shrubs, and the results obtained have been such as to be encouraging to himself and others. This *Ceanothus* survived the winter of 1894-5, which was considered the most severe for many years.—S. ARNOTT.

Colchicum Sibthorpi.—If Bornmüller's Meadow Saffron is the largest and finest of the Colchicums with indistinct chequering, *Sibthorpi*'s is the finest of the chequered species in cultivation. Unlike *C. Parkinsoni* or *chionense*, it is with me a very reliable bloomer, and always comes so early as to allow of one enjoying its fine flowers for some time before frost comes. The blooms are very effective on account of their large size and conspicuous markings. On the grass or carpeted by dwarf plants *C. Sibthorpi* has a fine effect. Of vigorous growth, I find it come well through such plants as some of the *Acanas*, and it looks well at the base of the rock garden.—S. ARNOTT, *Carse-thorn, by Dumfries, N.B.*

Senecio candidans, from the Falkland Islands, known there as the Sand Cabbage, is a very striking plant. Its flowers are insignificant. Its leaves are, however, quite out of the way for a Groundsel. They are large, entire, and leathery. The upper surface is dark green, powdered with white; the lower surface thickly coated with a white tomentum, which is so pure as almost to deserve the epithet brilliant. As the leaves are held in a measure upright, this showy under surface is a very conspicuous thing anywhere in the garden. My plants were raised from seed sown out of doors, and have stood out for two winters, so it is presumably hardy.—ARTHUR K. BULLEY, *West Kirby*.

Lathyrus grandiflorus albus?—Like your correspondent "H. E. W." (p. 232), I have been in doubt about the name of the new white Pea shown at the recent meeting of the Royal Horticultural Society. A white variety of *L. grandiflorus* would be an acquisition indeed, but after carefully comparing the descriptions in several of the gardening papers, I came to the conclusion that the Pea was probably *L. latifolius albus* improved. I have information of a very fine variety of *L. latifolius albus* which is in the possession of a leading firm of nurserymen, and which will probably be sent out when sufficient stock is at

command. May I suggest giving Mr. Green's Pea another name than *grandiflorus*, which is hardly in accordance with present practice.—S. ARNOTT.

Kniphofia Uvaria.—Mention of the free-flowering properties of this plant is made in THE GARDEN (p. 232), a plant producing as many as seventeen of its flower-spikes. This, however, is by no means a specially large number for this kind. It is no uncommon thing for this handsome kind to produce double and even treble the number from large clumps; indeed, I have more than once had forty spikes to a plant, to say nothing of the successional spikes which had to follow. One of the greatest displays, however, I have ever seen of this fine Torch Lily was, I believe, in the Oxford Botanic Garden, where every specimen was a giant of its kind and loaded with its brilliant spikes. The same kind was ever a feature for years together in the nursery of the late Mr. R. Parker at Tooting, where great masses flowered abundantly.

Notes from a Cornish garden.—The long drought having broken up, the herbaceous plants are already looking much fresher. Here the Poppy-worts have been especially good, notably *Romneya Coulteri*, *Hunemannia fumarifolia* and *Eomecon chionanthus*. *Gerbera Jamesoni* has been flowering on and off for the last three months, and its blooms now seem at their best. Plumbago *Larpenae* growing side by side with *Malva lateritia* is a mass of bloom. *Tournefortia heliotropoides* and *Astericus maritimus* are well out on the rockery, also *Linaria alpina* and the magenta *Mesembryanthemum*, which wintered out. *Crinum Powellii* is flowering under a south wall, and a patch of *Zephyranthes candida* in the same position has shown flowers for a month. *Phygelius capensis* has benefited by division. *Primula Poissonii*, *P. imperialis* and *P. japonica* lasted longer in flower than usual in a shady nook. *Hypericum Moserianum* is an acquisition. *Incarvillea Delavayi* and *I. Olga* grew side by side in the warmest spot in the garden. *Zauschneria californica* increases with great rapidity here, but this year it has no flowers, and will have to make room for something less uncertain. *Tupa Feuillei* and *T. galicifolia* seem all the better for the heat. *Anemone Whirlwind* and *A. Lady Ardilaun* are this season very conspicuous. *Physalis Franchetti* has already begun to ripen its fruits. *Cyananthus lobatus* seems to last unusually long in flower in the shade. Most of the *Asters* are at their best now. Last year's seedling *Pentstemon*s are in flower still.—C. R., *Burngoose, Perranwell, Cornwall*.

The weather in West Herts.—Another very warm week, and the third in succession. The hottest day was the 17th, when the shade temperature rose to 88°, which is higher than any similar reading registered during the summer months this year, and only 2° less warm than the maximum reading on the 8th inst. Two days later (the 19th) the highest temperature was only 62°, while the exposed thermometer fell during the previous night 2° below the freezing point, so that the changes in temperature during the week were considerable. This is also shown by the temperatures below ground, which on the 17th at 2 feet and 1 foot deep were respectively 7° and 10° above the September average, whereas at the present time the difference from that average at both depths is less than 5°. On the 16th and 17th the atmosphere was singularly dry, the difference at 3 o'clock in the afternoon between the readings of an ordinary thermometer and one with its bulb kept constantly moist amounting to as much as 19°. Rain fell for a short time on the 18th and 19th, but on neither occasion was the quantity deposited sufficient to do more than lay the dust. The ground still remains extremely dry; indeed, no rain-water at all has come through either percolation gauge for three weeks. On the four days ending the 17th the sun shone on an average for over nine hours a day, or double the September average.—E. M., *Berkhamsed*.

BURNING GARDEN RUBBISH.

WILL some reader of THE GARDEN help me over a difficulty which I have often tried to overcome? I have about twenty tons of old garden refuse and wish to burn it up. It is composed of sweepings, weeds, sticks, old vegetables, &c., but cannot get a fire to burn. I wish to know the best way to start such a fire, and how to keep it going until my heap of rubbish is all burnt up.—P. B. C. B.

* If the weather during the last few weeks has been the same in Yorkshire as in the south of England, little or no difficulty ought to have been experienced in burning any amount of rubbish or garden refuse generally. If the heap has been long in accumulating and the greater part of it is in a half-rotten state, then it may be questionable policy to burn it. Decayed garden refuse mixed with lime, or without the latter, is an excellent substitute for solid manure, and for fourteen years in succession was the only form of fertiliser used by me on a large plot of ground that could not well be devoted to any crops other than Potatoes owing to a plague of rabbits. The results were invariably satisfactory, the last crop of Potatoes lifted turning out equal to twelve tons per acre. I made a point of having the accumulations kept well squared up together, and each autumn the mass was turned. All sticks, stones, or other rubbish that would not decay in a few months were forked out, all that would burn being eventually formed into a slow fire. About every third year caustic lime was applied to the heap of decaying refuse at the rate of one cart-load or ton to five loads of the refuse, and after this had been slaked by means of a covering of soil, the lime and refuse were well mixed together, ready for carting on to the ground in frosty weather. Lime, in addition to hastening the decay of refuse and destroying insects and disease germs, naturally added considerably to the manual value of the heap generally. It ought, perhaps, to be added that neither weeds, insects, nor diseases were more prevalent when lime was employed than they were when none was used.

After giving this alternative to burning, I will next advise "P. B. C. B." how to proceed in the event of his adhering to the resolution to burn his heap of rubbish. Previous failures are most probably due to starting with a feeble fire and smothering this before it could bear the pressure. The start ought to be made with a good heap of old Pea stakes or two faggots of light firewood, piling these in a conical shape over some straw or dry Pea haulm. This alone is not sufficient, but at least two faggots of heavy wood or its equivalent in other moderately heavy wood should be arranged on the lighter wood before lighting the fire. Directly the light wood has caught alight, enclose the heap—always conical—with some of the more woody, lighter rubbish so as to prevent the fire breaking through and burning out rapidly. On this may be placed a thin layer of moister material, adding more wherever the fire breaks through, but never a heavy weight at one time. During the first day or two, and especially while the wood lasts, the most attention has to be paid to the fire, and later on an occasional stir up is needed. Curiously enough, I am writing this in a room overlooking a slow fire which I had lit nearly a month ago, and it will be kept burning another week or more. Every evening a fresh covering of garden refuse is put on, and in the morning, wherever it is burned through, more is added. In this way a great heap of refuse of various kinds is gradually reduced to ashes, and in its place I shall have a smaller, and for my purpose, more valuable mound of "burn-bake" or charred soil, charcoal and wood ashes. This material is a sure improver of soils; the roots of all kinds of fruits, flowers and vegetables revel in it, the plants deriving much benefit from its presence in the soil.—W. I.

Names of plants.—*J. H.*—*Impatiens glandulifera*.—*J. Turner*.—*Cytisus Laburnum*.—*A. D. B.*—*Polygonum cuspidatum*.—*H. S.*—1, *Hypericum calycinum*; 2, *Polygonum cuspidatum*.—*A. E. Lowe*.—Probably *Quercus heterophylla*.

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CHRYSANTHEMUMS.

NOTES ON CHRYSANTHEMUMS.

THE hot weather during the last six weeks in this neighbourhood has been all in favour of the Chrysanthemums. Many of the buds would have been very late, but now all the best varieties here are quite up-to-date, a few early crowns that were taken the first week in August being much too early. A good deal of feeding has been necessary, and later in the season than usual, for the wet weather in the early stages and the subsequent large amount of water needed have swilled a lot of the nutrient out of the compost. Some of the plants that took on a bad colour earlier in the season are feeling the effects of the hot sun badly, the weakened foliage apparently not being able to stand it. A few I stood on one side by way of experiment and shaded lightly have improved a little, and had they been taken in hand earlier would, I think, have been better still. The midribs of the leaves and some of the larger reticulations are deepening in colour, and the buds are swelling rapidly. Edith Tabor has this year gone higher than ever, and this is apparently the worst fault of this lovely variety. The buds look well and the plants are leafy right down to the pots, in strong contrast to those on Mme. Carnot, one of the worst sufferers here from leaf-rust. The well-known old W. H. Lincoln is in grand form this season, the buds having that strong, robust look, and the foliage the deep green tint and leathery texture that are the sure precursors of fine deep flowers. I have the greatest faith in soot water for syringing the plants with at this time of year, and I know of nothing that so well keeps up the vigour of the foliage in a trying time. Dry soot thrown lightly over the plants after a shower is helpful, but care must be exercised in its use. I have never known mildew to make any advance where this material has been freely used, but it must be at least twelve months old, as new soot will kill the

leaves. Three years ago I took some soot from some old greenhouse flues that were being pulled down, and as these had not been used for many years thought it quite safe to use. But the fumes from an adjacent boiler had leaked into the flues, and every plant the soot reached was more or less injured.

After the middle of September there is no telling how soon frost may set in, and some means of protection should be kept at hand. Here I use sheets of newspaper, placing them on the tops of the stakes, and these are sufficient protection as a rule from the earlier frosts. Where necessary a few small stakes should be placed about the heads of the plants to prevent any possibility of injury to the buds in taking the papers off. Any of the earlier plants that have buds forward enough to show the colour of the petals should be taken under glass, as the heavy dews and occasional showers will lead to the flowers damping. As the time for housing is not far distant, everything should be got in readiness for their reception as far as possible. The majority of gardeners have not the command of sufficient house room for all the plants without using vineries and other fruit houses. Where they have to go into the former, the Vines as soon as possible should have the laterals shortened, as there will be less foliage then to fall among the Chrysanthemums, and these obtain more light. Housing should be done while the foliage is perfectly dry, on fine days if possible. A bad attack of mildew often follows the housing of the plants in dull, wet weather. But none the less the plants like atmospheric moisture when they are inside, and until the first of the flowers open this should be maintained by lightly syringing the plants when the weather is bright and damping the floors a little. A dry atmosphere is necessary afterwards, but it must be brought about gradually, or the plants will feel the sudden change.

SUFFOLK.

Chrysanthemum Mme. L. Ligneau is another welcome addition to the early-flowering

Japanese sorts. The plant is wonderfully dwarf and compact, and although as represented by Mr. Wells in a disbudded state its usefulness was not very clear, bunches of the same variety, in which a more natural and free-flowering method of culture had been adopted, showed the beauty of the blossoms and partially opened buds. It is another proof of the adaptability of the early sorts to a natural system of culture. The colour is a pleasing shade of clear yellow, reminding one of the later-flowering Phœbus, and the florets are of good width and substance.—D. B. C.

Chrysanthemum Lady Fitzwygram.—What was stated in your last issue with reference to this variety I fully agree with, and feel sure that many growers have discarded the plant because they do not understand how to treat it to see the flowers at their best. The plants of this variety, when first submitted to the floral committee of the Royal Horticultural Society a few years ago, were dwarf and compact, each plant carrying about a dozen blossoms. Treated in this way, the flowers are useful for cutting, while if grown without disbudding the result is somewhat disappointing, and I would prefer freely-flowered plants of the old Mme. C. Desgrange.—C. A. H.

Chrysanthemum Henri Yvon.—This is the second sport from M. G. Grunerwald which has been freely shown this season. At the late show of the National Chrysanthemum Society, Messrs. H. Cannell and Sons staged a capital bunch of freely-grown flowers, though less pretty than those exhibited by Mr. Wells at the Drill Hall last week. A fortnight's difference in the time of showing is evidently sufficient to account for a considerable variation in the colour of the blossoms. The colour is a lovely cerise-pink on a pale yellow ground. The flowers are freely produced on dwarf plants. When grown in the outdoor garden these early Japanese kinds are seen at their best. When grown in pots and placed under glass the flowers have a very washy look.—D. B. C.

Forthcoming continental Chrysanthemum shows.—The journals of the various continental Chrysanthemum societies announce already a goodly number of exhibitions of the flower to be held during the forthcoming season.

Belgium, Switzerland, Italy, Germany, and France are each making efforts to hold important gatherings. The Paris show will no doubt be the most extensive, although the congress and show at Lille, organised by the Northern French Chrysanthemum Society, will undoubtedly be a formidable rival, partaking as it will largely of an international character. The congress at Troyes is another event of importance, and this will be held under the auspices of the French National Chrysanthemum Society. English growers are invited to exhibit at several, and in view of the wider interest that is being taken in the flower it is to be hoped that some of our best growers will avail themselves of the opportunity afforded. Money prizes are not often awarded, the recompenses being as a rule medals of the societies holding the shows.—C. H. P.

Chrysanthemums at Fawkham.—Mr. Waterer's collection is in fine condition. As a whole the buds are swelling finely and the plants are the picture of health. Coarseness is nowhere to be seen. Nice medium-sized wood, well ripened, with leathery foliage, convinces one that careful attention to detail has throughout the growing season been observed. There are exceptions in the collection and in plants which can ill be spared, and kinds such as Mrs. H. Weeks and a few others are very unlikely to develop their blooms in time for the shows. The most promising plants were Matthew Hodgson (one of the brightest Japanese flowers), Mrs. W. Mease (the sulphur Mme. Carnot), Mary Molyneux (very tall), Hairy Wonder, Yellow Mme. Carnot, as well as the parent plant Mme. Carnot, George Seward, John Neville, Joseph Brookes, Chas. E. Wilkins, Ella Curtis, Mrs. G. Carpenter, Australie, C. W. Richardson, Julia Scaramanga, and the members of the Viviani Morel family. Every Chrysanthemum enthusiast will remember the handsome vase of Mlle. Marie Hoste set up by this grower in 1896 at the National Chrysanthemum show, and which secured the American gold medal. If this method of exhibiting the large blooms were more liberally provided for, Chrysanthemum shows would be far more popular and the practical value of large individual flowers illustrated.—C. A. H.

RUST ON CHRYSANTHEMUMS.

In the notes by "H. S." last week he states that he has not yet heard much of the Chrysanthemum rust, although the fear is expressed that with dull, showery weather it will spread. Within the last few weeks I have received from different parts of the country portions of shoots of Chrysanthemums very badly affected with this latest disease, showing that the evil is spreading very considerably. Within the past fortnight a grand lot of plants in a well-known grower's garden has suddenly developed this very serious evil. Of some 300 to 400 plants in the collection, more than 100 are affected with the rust, and, knowing that the foliage is being subjected to a certain treatment, it will be advantageous to chronicle whether the means taken to prevent the disease spreading has been effectual. That this matter is of great importance to many gardeners most people will readily admit, and to stamp out the disease effectually special pains should be taken, by burning plants badly affected, or at least the foliage belonging to them, also isolating those less severely attacked. This also brings home to the grower the need, when acquiring new stock, of being assured that the cuttings and plants are absolutely free from any taint of the kind described above. Exceptional measures should be adopted to eradicate the evil before its ravages have become general. It would be interesting, and at the same time an immense advantage, if growers whose plants have been affected would give readers of THE GARDEN the benefit of their advice and experience in attempting to check the advance of this disease.—D. B. CRANE.

P.S.—Since writing the above note Mr. P. Waterer has raised the question of leaf rust before

the executive committee of the National Chrysanthemum Society, and that body evidently sees the importance of immediate action, and has already arranged for a conference on the subject. The conference is to take place on Tuesday, October 11, the first day of the October show, at an hour in the evening to be announced later, when it is hoped to have the benefit of advice and the professional help of a specialist in fungoid diseases.

—Will you kindly tell me in the next issue of THE GARDEN the cause of the disease in the enclosed leaves, also if there is any cure for same?—D. D.

* * The cause of the disease now known as the Chrysanthemum rust is uncertain. A theory of not a few is that manures, especially those of a concentrated form manufactured from fish substances, have something to do with it. Another theory is that it is of American origin, because the variety Niveum was the first one on which the rust-like spots were noticed. We are not prepared to say which is right, but fear it is a trouble likely to be pretty general where Chrysanthemums are grown. In your case, judging from the leaves sent, the disease has got a sure footing among your plants. Probably it was allowed to do so in the earlier stages of the plants' growth before you became aware of its existence. When the plants are young it is not a difficult matter to get rid of it by picking off affected leaves. Later, however, on account of the remarkable rapidity of its spread by wind and such causes, it is not so easy to master. Sulphide of potassium has been recommended, but a recent letter from one similarly placed to yourself states without effect, and Condy's fluid had no better results. It seems to us that a mixture in which paraffin formed a part would meet the case, and quote from an article which appeared in THE GARDEN of March 26 of present year. "Take half a pound of whale-oil soap (ordinary soft soap, we presume) and boil in one gallon of water. When dissolved and boiling, add one gallon of best petroleum oil and 2 oz. of carbonate of ammonia. Stir so that all is thoroughly mixed. This forms a composition like gruel. Use it at the rate of one part to fifteen of water, and syringe the leaves, taking care to keep it well stirred the whole time." The writer states that the above mixture was absolutely effective, and for that reason it appears to us the best cure yet obtainable for a troublesome Chrysanthemum complaint.

NOTES AND QUESTIONS.

Chrysanthemum Doris Peto.—This, a pretty little pure white Japanese flower with rather broad florets, promises to make an ideal sort for outdoor culture, also succeeding well when grown in pots. The habit is dwarf and bushy, producing its blossoms quite freely and rarely exceeding 2 feet in height. This is an English-raised seedling.—C. A. H.

Chrysanthemum Albert Rose.—This is also an English seedling and is now flowering freely. As a pot plant it is useful, but succeeds far better planted out in the open border. It is a welcome addition to the early Japanese sorts, with reflexed florets, and in colour somewhat resembles a well-coloured blossom of Etoile de Lyon—a distinct shade of rose. Its height is 2½ feet.—C. A. H.

Early-flowering Chrysanthemums in France.—Some little interest is now being displayed in varieties of the early section by the French growers. The floral committee of the Paris Chrysanthemum section will hold meetings on September 8 and 22, and a show will be held on October 13 with the view of showing to the public the various kinds which are over by the time the ordinary November show is held.—C. H. P.

Chrysanthemum W. H. Lincoln.—There is evidence that this variety still finds much favour. Probably this is accounted for by reason of its accommodating qualities. Already this season quite a number of its blossoms have found their way into the market, and as they develop equally well on either early or late buds, growers doubtless prefer this variety to many other promising, but less certain kinds. A table decoration at the Royal Aquarium recently

gained its chief beauty by the use of blossoms of this rich yellow variety.—D. B. C.

Chrysanthemum Mytchett White.—This early-flowering variety, which created so much interest last season, has been little heard of so far since. Growers for market, as well as others having a demand for white flowers in the early autumn, apparently recognised the value of its chaste white blossoms, as the demand for plants right through and until the spring was well advanced was quite phenomenal. The result of this has evidently taxed the vigour of the plant, and to procure good healthy stock for another season's work, careful nursing will be necessary. In the open last year it was one of the best.—W. H.

Chrysanthemum Soleil d'Octobre.—Among the many handsome Japanese varieties introduced in recent years this is deserving of a high position. It is one of the most accommodating, and appears to succeed well from almost any bud. In October and November last year many very fine blooms were seen, and in the first week of the present month, on plants which were stopped and on others which made a natural break and first crown buds secured, flowers of high quality were developing quite freely. Cuttings inserted in the spring and finally shifted into 6-inch pots and flowered on single stems are also doing very well. At the recent show of the National Chrysanthemum Society at the Royal Aquarium in the leading group there were many excellent blooms of this lovely canary-yellow flower.—D. B. C.

ORCHARD AND FRUIT GARDEN.

KEEPING GRAPES.

GIVEN a dry, frost-proof room, Grapes, with their stems in bottles of water, may be kept for many months in thoroughly good condition with far less trouble than is usually thought necessary. The exigencies of space make it imperative for me to cut all late Grapes by the end of September, and if they are by that time well ripened I find no difficulty in having Muscats, Alicante, Gros Maroc and other such keeping varieties, fresh and plump, both in berry and in stem, until the following March. To have them in this condition it is very necessary to be chary in the use of any artificial heat for the purpose of drying the atmosphere of the Grape room, as very little of this will cause shrivelling. As a matter of fact I used no heat at all during the past winter, and never had the Grapes keep better than they did then. Previous to cutting the bunches, the bottles are filled with fresh spring water and placed in the racks, after which the room is thoroughly ventilated and dried by the aid of a gas-stove. The Grapes are then cut and taken to the room, which stands at some distance from the vinery, on the first opportunity when the outside air is dry and warm. These conditions of weather I have proved by experience to be essential. It is immaterial which end of the lateral bearing the bunch is placed in the water, and this is an important point to remember, for it gives an opportunity of leaving a few of the lower leaves and some inches of the lateral on the Vine in cases where the foliage has not yet ripened off. I do not sear the cut ends of the laterals, nor use any charcoal in the water, and do not think either is at all necessary. The water is never changed, for I find that more harm than good generally follows meddling of this sort, which cannot be done without spilling more or less of the water and creating dampness in the atmosphere of the room. It may sometimes be needful to add a little water to some of the bottles where the stems are too short to go well down, but this does not often happen when one has a choice of ends for insertion. Now and then the bunches are looked over for decaying berries, but few are ever found, unless the weather has not been quite

right when the transit from vinery to Grape room has taken place.

There are advantages in being able to clear vineries of their fruit when it is ripe, even where the houses are not absolutely needed for storage of other things, as pruning and cleaning can be done at leisure before there is any need to fear the bleeding which is sure to follow pruning when Grapes are allowed to hang on the Vines till the early months of the year.

J. C. TALLACK.

Pear Clapp's Favourite.—The hot weather has had a great influence on this Pear this season, as fruits gathered from a pyramid on the Pear stock ripened some considerable time in advance of the usual period. The first sign of their having approached maturity was given by tomtits and wasps attacking the fruits in a very determined manner. This necessitated their being gathered earlier than would have been the case, but they quickly turned and became ready for use in a short time after being placed in the fruit room. Like all other early Pears, Clapp's Favourite keeps but a short time, and should be sent to table without delay once it is fit for eating. It is a fine Pear as regards size; some fruits were quite 5 inches long and prettily coloured, much in the same way as Louise Bonne. It is also a well-flavoured sort, and is very juicy and refreshing if eaten when in perfection.—A. W.

Peach Princess of Wales.—This is a fine handsome Peach, but, unfortunately, the flavour does not come up to the standard required in private gardens. Being so fine in appearance, I have tried gathering it at various times, and have left it until dead ripe upon the tree, but in no way can it be said to be good. If gathered as soon as it parts from the tree long before it is ripe enough to drop, it is acid and wants sugar, but otherwise pleasant; but if left to drop it is insipid and without the least flavour of any kind. I have trained the tree very thinly, and thinned the crop down to a very small number; the fruit is magnificent to look at, of nice shape, and prettily streaked with red. The only way it is passably good is when grown in an unheated house in a very sunny position, and each fruit brought right up to the light by passing a lath underneath and tying the foliage away. It is, perhaps, too much to expect the flavour of Noblesse in a Peach so late as Princess of Wales, but there is room for a good light-coloured variety that would in a cool house follow the outdoor crop. At present I know of nothing in the way of pale-coloured Peaches later than Belle-garde that has anything to recommend it in the way of flavour.—H.

Outdoor Peach trees.—Once again the gathering of outdoor Peaches will soon be at an end, and as soon as finished, the trees should as far as possible be put in order. This will include the cutting away of the old bearing wood, to be followed by a thinning of the current year's growth, when too many shoots—as is often the case—have been laid in. All lateral growths should be stopped, and fasten back to the wall any shoots which may need support. This, besides preventing them from being blown about and becoming broken, greatly assists in the ripening of the wood through its coming into close contact with the wall. If spider has been rampant—and it is feared that such has been the case in many places where the water supply has run short this season—a good hosing or forcible washing with clear cold water should follow, pursuing this course for a few days until these pernicious little insects are subdued. The mulching on the alleys may be removed altogether, as this has now served its purpose, the object henceforth being to get the wood as thoroughly ripened as possible. Should the border be dry, afford it sufficient water to moisten the soil throughout and no more. Do not flood it, as this will have an opposite and undesirable effect by causing the trees to make late growth. By attending to

these few simple details at once the trees will be greatly benefited, as the wood will have a better opportunity of becoming thoroughly ripened, which in turn will render the chances of obtaining a crop another season the more certain.—S. E. P.

Peach Violette Hative.—I quite agree with all that your correspondent has to say in praise of this Peach on p. 227, as I am a grower of it both under glass and outdoors. For the latter purpose it is a most reliable sort, as it fails to bear only in very untoward seasons. It is also a very hardy variety. It bears small flowers, and the tree invariably makes an abundance of good wood, which ripens without the slightest aid beyond that usually afforded by the cutting away of the old bearing wood as soon as the crop is gathered. I have gathered some fine fruits of it this season from a west wall, and the colour, as may be imagined when the hot weather is taken into consideration, was superb; the flesh is generally stained with red, more or less, right through to the stone, and the flavour is very delicious. Under glass it is quite as good as regards flavour, and here there is a gain in size, many of the fruits this season being extra large. I lifted the tree which bore these fruits from an outside wall a few years ago to replace one which had died indoors, and have never regretted doing so, as it has always given such very satisfactory results. I am often asked to give a list of Peach trees suitable for outdoor culture, and Violette Hative is invariably included, so excellent is it in every respect.—A. W.

PEAR MARIE LOUISE FAILING.

I HAVE a large Marie Louise Pear tree about 25 feet high, with a stem 6 inches in diameter. It is trained against an east wall. It has plenty of foliage, but little fruit. Kindly inform me whether root-pruning would be of use, and, if so, at what distance from the tree the trench ought to be dug.—IRIS.

* * The fruit of Pear Marie Louise at its best is surpassed in quality by that of no other variety. The trees under favourable conditions attain to a great size, as witnessed by the above note, and grand crops are frequently obtained. Unfortunately, the variety has one serious defect—the flowers are comparatively feeble and particularly liable to injury from frosts or frosty winds. About the worst site for the tree is an east wall, and the best either a west or south-west aspect. When the trees face the east the sun reaches them quite early in the morning, with the result that frozen flowers thaw rapidly and are injured beyond recovery accordingly. "Iris" affords no information as to whether the tree of Marie Louise flowers freely or not, only stating it has plenty of foliage and but little fruit. It is not often that such large, freely-grown trees require root-pruning with a view to checking exuberance of wood growth and promoting the formation of fruit-buds, but I have known opening a trench at a good distance from the stem, saving, pruning, and relaying the roots in a fresh, moderately rich compost to cause large trees to produce a better stamp of flowers and a heavy crop of much finer fruit than formerly. It is just possible "Iris's" fine tree would be benefited by this treatment. In any case I should advise acting cautiously, as over-zealous root-pruning is liable to give large old trees a severe check, from which they are slow in recovering, if ever they do. Root-prune one side only this autumn (late in September or early in October), and complete the half-circle either next season, or, if the tree shows signs of having been much weakened by the process, defer the completion yet another year. Open the trench in front of the tree at fully 6 feet, or a greater distance rather than less away from the stem, 18 inches to 2 feet wide and as much in depth, and extend this to the wall either on the right or left of the stem. The operator should always have the tree on his left or right, as the case may be, with the aim of saving as many roots as possible. From the

trench gradually undermine the tree, using a fork for clearing the soil from the roots till it is possible to reach any strong, deep running roots there may be immediately under the centre of the tree, cleanly cutting through all of this description found. This can be done by undermining or without actually moving all the soil right up to the stem. All the preserved roots should next be examined, shortening those much bruised to a sound portion and cutting over all with broken ends to facilitate healing. Refill the trench with fresh soil, that thrown out being long since exhausted of the elements most needed by fruit trees. If fresh loam, fibrous or otherwise, is not available, use the top spit of garden soil, enriching and improving either this or loam by the addition of nearly fresh horse manure, "burn-bake," or the residue from a slow fire, mortar rubbish, and a liberal sprinkling or, say, one-quarter hundredweight of half-inch bones. These additions should form one-third of the whole mass, a moderately rich, yet not too close compost promoting the growth of strong, healthy root-fibres.

Relay the roots in this compost much as they set out from the underground stem, unless they happen to strike downwards more than is desirable, in which case they ought to be brought nearer to the surface. Make the soil moderately firm, and mulch both the fresh and undisturbed soil with strawy manure. A heavy watering is desirable if either the new soil or the old is on the dry side when moved, and if the severe root-pruning causes the leaves to flag, syringe the trees repeatedly on dry days. This partial lifting of roots should always be done before the leaves have fallen or are on the point of falling, as then the wounds heal, and either callus preparatory to forming root-fibres in the spring or actually do form them in the autumn to the no small advantage of the tree.

If after making inquiries "Iris" finds that the tree usually flowers freely, but suffers from frosts or cold winds, root-pruning had better be deferred till it is seen what can be done without resorting to this drastic remedy. All the clear space in front of the tree, or say to a distance of 12 feet from the stem, should have a surface loosening with a fork, and during the winter receive one or more heavy soakings of liquid manure, such as drainings from horse stables, piggeries and farm-yards, applied moderately strong. This would have a strengthening effect on the bloom and improve the size of any fruit that might set. Such a fine tree would pay well for protecting with blinds when in flower.—W. I.

Apple Allington Pippin.—Last year this Apple was so good that I planted some small bush trees. In spite of one of the driest seasons we ever experienced, the trees are bearing freely and the fruits even now are well coloured. This may be termed a midseason Apple, its season being from late October to March. It is a valuable addition to the dessert Apples in season at that time. The fruits are medium-sized, very handsome, somewhat conical, with red markings on the sunny side and yellow on the reverse, the flavour resembling that of the old Golden Reinette. It fruits freely as a standard. I feel sure it will become a favourite with fruit growers on account of its flavour and keeping qualities.—S. H. B.

Blackberries.—It may not be generally known that there is more than one variety of the wild Blackberry. In one place in Essex where I was employed there grew freely on a sunny slope by the lakeside, amongst the common Bracken, a very fine variety, the fruit being as large as the largest Raspberries, the individual pips large also. The fruit was borne in great abundance and was of extra-fine flavour. There was no comparison between them and the common Blackberry found in woods and by the roadside. The fruit made splendid puddings and jam. Could this variety be procured and propagated there would be no need for the American varieties, which after all are very uncertain. The growth of the sort re-

ferred to was also stout and vigorous.—J. CRAWFORD.

Williams' Pear on the Quince stock.—At the present time I am using for the dessert Williams' Pears which have been gathered from trees worked on the Quince. These are of such first-rate quality, and considered to be so very superior to the ordinary Williams' (if I may be permitted to use the term), or those grown in the usual way on the Pear stock, that a short note thereon may be of some value to intending planters. The trees in question are bushes growing in the open garden, and, as has already been stated, they are on the Quince stock. As might be supposed, they do not grow nearly so strong as trees worked on the Pear, but they are equally, if not more, fruitful, while the fruits come much larger. The skins are also much clearer and brighter, and lack the russet appearance of the ordinary Williams' Pear. The flavour, which after all is the great desideratum, is really first rate. They also have not the tendency to go sleepy quite so soon as is the usual experience with this variety, and when ripe will keep in good condition several days. When nicely arranged, from six to nine fruits make a handsome and imposing dish for the dessert and are always much appreciated. If called upon to plant more trees of this variety for affording fruit for private use, I should most certainly give trees worked on the Quince the preference, on account of the produce of such being so superior in quality.—W. H.

GRAPES SHRIVELLING.

I SEND a bunch of Grapes, and shall be glad to know the reason why all the Grapes (Black Hamburgh) have shrivelled up on the bunch sent. Some people tell me that it is either from want of water or too much water. The Grapes have not gone so in previous years. My opinion is that at one period they have been checked.—H. B. M.

*** Shrivelling of berries is just now exercising the minds of numerous Grape growers, and the cause of this occurrence is difficult to determine. In each discussion that I have taken a part various reasons were assigned for this premature shrivelling. This shrivelling of berries, and which, let me add, is altogether distinct from shanking, has taken place this season in the case of Muscat of Alexandria Grapes ripened early and under apparently the most favourable conditions, and is equally bad where the ripening is later owing to either the sites of houses being cooler or to lateness in starting the Vines. Mrs. Pince's Black Muscat invariably shrivels badly in some gardens, and it is noticeable at this early date, though why these two richly flavoured varieties should be peculiarly liable to shrivelling is a mystery to most growers. There is never much water in their berries, and it is just possible that in the chemical changes that take place during the ripening the water is parted with a little too quickly.

The more watery, less richly flavoured Grapes are least given to premature shrivelling, but most of them will do so if ripened early and allowed to hang on the Vines for a long time afterwards. We have passed through an exceptionally hot and dry summer, but during July and part of August the nights were cold and fire-heat could not be wholly dispensed with accordingly, so that the atmosphere was dry both by night as well as day. The tendency would, therefore, be towards early maturation of fruit under glass, and this is what took place in the case of the bunch sent. It was perfectly ripened, and when cut was well advanced towards the raisin stage. During hot and dry weather the foliage parts with a great weight of moisture in a few hours, and in many cases the borders both inside and outside required to be watered at least once a week. Curiously enough, many gardeners never pay much attention to outside borders, these being supposed to get all the water they require from the heavens. They may do so during a wet, sunless summer, but owing to neglecting to water and mulch outside borders numerous

crops of Grapes are in a poor plight at the present time. Some growers are afraid to water the borders after the bunches have commenced colouring, and an application of liquid manure at that late period is supposed to be highly injurious. From first to last the borders ought to be kept constantly moist, not saturated. Caught at the right time or before they become dry to the extent of crumbling when tested, a little water or liquid manure will go a long way, but wait a few days longer and three times the amount will not effect the remoistening so thoroughly and well. My borders, which are still receiving weekly supplies, are composed of sandy, clayey loam and require water oftener than do those of a more retentive nature, so that there is no fixed general rule as to when to water. Allowing the borders to become dry and then giving a heavy watering is bad practice and a frequent cause of cracking of ripening berries. Ceasing to water after the crops are ripe is bad for both the Vines and the Grapes, and if this was done in the case of the Vines producing the bunch before me, if only for a few days longer than usual, this might have been responsible for the shrivelling. Keeping the borders steadily moist need not end in ripe Grapes decaying wholesale, nor in the loss of a few berries even. Inside borders ought to be well covered with straw litter, the watering should be done in the mornings of clear days, and a good circulation of dry air, with or without the aid of fire-heat, maintained. A very light shading acts most beneficially during very hot weather, and is most desirable when there is no air space between the Vines and the glass, preventing early loss of colour in the case of black Grapes and saving the foliage.—W. I.

Nectarine Pine-apple.—This dainty variety has done grandly again this season, a young tree in the worst corner of a span-roofed house having finished up a heavy crop of fine fruit. It is later than Humboldt and of superior flavour; otherwise it resembles it with its deep yellow flesh and fine colour outside. Early Rivers, Lord Napier, Humboldt, Elruge, and Pine-apple are a fine lot in ordering of ripening. Pine-apple is not a very strong grower and will not stand rough treatment so well as some others, still it is a good kind and one that may be planted with every confidence.

Apple Duchess of Oldenburg.—In a cottage garden in Essex this week I noted one of the finest trees of this popular Apple I have seen. It was only about 3 feet high, but had evidently been well cared for, and the fruit was excellent, though there was a heavy crop. In private gardens this is getting well known as one of the best early kinds, and it seems to me to be just as useful for cottagers and small gardens generally. The flavour is brisk and the flesh is not mealy like that of some early kinds, while the fruit is handsomely striped and quite large enough for dessert. It is also a constant bearer and grows freely.—H.

Plum Gisborne's.—As a stout-growing free-fruited cooking Plum this would be difficult to beat. It is as free-bearing as Victoria and very healthy and clean in growth. The fruit, produced very plentifully, is of medium size and bright yellow in colour, not unlike Pershore, but rather smaller. A difficulty is often found in providing fruit in sufficient variety for compotes, but these yellow Plums are always liked by good cooks and are not always too plentiful. The great advantage of this and similar hardy kinds is that they can be grown in almost any description of soil or situation, provided it is firm and open.

The Japanese Wineberry.—This is a nice-looking plant and bears fruit with the greatest freedom, but, excepting in the case of cultivators who like curiosities, it will probably never be grown to any great extent. Its principal use seems to be for preserving, and some long rows in any light, sunny part of the garden would pay for growing for this purpose. Some people like the brisk acid, juicy berries, but good fruit would,

I think, have to be very scarce before this will find a place in a good dessert. It has a striking and pretty effect, however, while growing. To get good fruit the plants should be allowed plenty of room, and as it is a gross feeder, the border must be very rich.—H. R.

Fruit trees over walks.—The late Mr. Wildsmith, of Heckfield Place, was one of the pioneers of the arching over garden paths with Pear trees trained as cordons. The examples found there some twelve to fourteen years ago were admirable and cropped abundantly. One of the most perfect examples of this form of Pear training may be seen at Sandhurst Lodge, Berks, where there are three garden paths, each about 50 yards long, covered most efficiently. The largest or loftiest arched path of this nature I have seen is at Buchan Hill, near Crawley, for that is lofty enough and broad enough to enable an omnibus to pass beneath. This one also includes Pears, Plums, and Apples, all being trained as cordons and planted close together. At Madresfield Court a broad centre walk is so planted with Pears only, but these are fully 12 feet apart on each side, as large bush trees come between. The path from tree to tree is 6 feet broad. But these trees trained up each side cordon-wise, yet have three branches carried out horizontally from each side overhead and about 2½ feet apart. These are secured to wires strained tightly to the garden walls at either end of the walk, which is some 400 feet long. In each case fruiting is liberal, but for the production of colour effects, varieties that give good coloration may well be employed. Amongst Apples, Golden Spire, Col. Vaughan, Worcester Pearmain, May Queen, and Baumann's Red Reinette may well be planted. Fertility, Durondeau, and Beurré de Capiaumont Pears are excellent. The plan is one that is productive of pleasing effects in kitchen gardens, and enables paths to be most profitably utilised.—A. D.

NOTES AND QUESTIONS.—FRUIT.

Strawberry Lady Suffield.—I think the committee of the Royal Horticultural Society were fully justified in recently giving an award of merit to the new Strawberry Lady Suffield. I have tasted it and found it one of the sweetest and richest-flavoured Strawberries I know. The fruit is of medium size, dark in colour, ripening to the point. It should become a favourite wherever flavour is appreciated.—J. C.

Apples at Madresfield Court.—Whilst there seems to be an abundant crop of Apples on all descriptions of trees at this place, especially on cordons, on wires, and old and fine espaliers, there is a long row of semi-bush trees on Crab stocks edging one side of a path, each about 16 feet in height, all carrying quite heavy crops. These trees were planted but 2 feet from the edge of the walk, and therefore have on the walk side had to be kept rather close cut. The branches in other directions do not exceed 5 feet to 6 feet.—A. D.

Mulching Strawberries with grass.—One sometimes sees Strawberry beds mulched with short grass from lawns, but the practice is a bad one for several reasons. In the first place, should rain come while the grass is fresh, it clings to any fruit that may be lying on it; and secondly, it soon decays and becomes little better than manure, the feet sinking into it and making it anything but pleasant. Grass mowings are all very well for placing round newly-planted shrubs, but as a mulch for Strawberries and fruit bushes they are most unsuitable.—C.

Rubus laciniatus.—In the course of his recent lecture on "Suburban Fruit-growing," Mr. Roupell stated that *Rubus laciniatus* was proved to be an indigenous species because it frequently came up from loam carted in from a particular common. Certainly the species has been long regarded as of American origin, and it is odd that whilst thriving so well here wherever planted, and even negligently treated, yet it never seems to be found growing absolutely wild. That it is the most profitable and early of all Blackberries there can be no doubt. Intercrossing Blackberries and Raspberries seems so far to have resulted in simply spoiling both fruits. We can have superb Blackberries if we wish to select and grow from the best, and undoubtedly we have grand Raspberries.—A. D.

STOVE AND GREENHOUSE.

BOUGAINVILLEA GLABRA.

For growing under glass in this country, *Bougainvillea glabra* is, generally speaking, the more useful of the two species that are in cultivation, though in the tropics, where there is ample space for its development, the larger-

form far more pleasing objects than when tied into a hard and formal shape. As a roof plant or for furnishing the end of a glass structure it is one of the best plants we have, while good-sized specimens of it are turned out of doors during the summer in some of the London parks, and flower freely under this treatment. This latter circumstance should tend to explode a widespread fallacy that stove-heat is neces-

shoots were pushed through the top lights into the open air, in which position they flowered profusely, and the bracts produced were richer in colour than those under glass. The soil best suited to this *Bougainvillea* is good turfy loam, with an admixture of leaf-mould and sand. Specimens intended for clothing walls, roofs, or pillars should be planted out in preference to keeping them in pots, though the root-run

must be restricted, as in this way the plants flower much more freely than if in a large border. The flowers proper of this *Bougainvillea* are but small and not at all showy, the beauty of the inflorescence consisting of the large brightly coloured bracts which are so freely borne. When in a confined border, liberal doses of weak liquid manure during the growing season will be of great service. As soon as the flowering period is over—which in a cool house will not be till autumn is fairly advanced—the plants should be kept somewhat drier at the root in order to thoroughly ripen the wood. Early in the year, should space be limited, they may be closely spurred in and any exhausted wood removed. Then with the return of spring the plants will break out freely and produce their flowering shoots in great profusion. The bracts, which are of a beautiful rosy tint, vary a good deal in hue according to the conditions under which they are produced, as in a moist, shaded structure they are much less effective than where well exposed to light and air. Besides the difference in colour induced by its surroundings, there is also a variety of *B. glabra* in which the bracts are a good deal deeper in tint than those of the type, while it is so excessively floriferous that even little plants in 2½-inch pots will produce several bracts. This is the variety *Sanderiana*, met with, I believe, in an old-fashioned garden in the south of England. The fact of this variety flowering so freely in a small state has caused it to attain a considerable amount of popularity.

Bougainvillea spectabilis is altogether a larger and more rampant-growing plant than the preceding and by no means so sure in flowering. It is also more variable than the other, as individual differences exist in the production of the blossoms, in the colour of the bracts, and also in the degree of hairiness on the leaves. This *Bougainvillea*, or at all events but a slightly removed form of it, is known as *B. speciosa*, and there is a variety—*lateritia*—with bracts of a distinct reddish tint. Bright sunshine is absolutely necessary for the successful culture of *B. spectabilis*, as without this we get very few bracts, and even those that are produced are wanting altogether in the rich hue of those that get plenty of light and sunshine. The great beauty of this *Bougainvillea* in the cultivated regions of the tropics is proverbial, and that we cannot reproduce it here is owing principally to the less amount of sunshine that we experience. This is well shown by the fact



Bougainvillea glabra. From a photograph sent by Mr. R. Kelly, Kelly, Liffon, Devon.

growing *B. spectabilis* forms a gorgeous feature. *B. glabra*, which was introduced into this country in 1861, quickly became popular, especially for growing into specimens, which at that time were to be met with at most exhibitions. Apart from the large trained plants, which give a good deal of trouble, it may be grown as a bush, in which way it will flower freely and

sary to the successful culture of this *Bougainvillea*, for it will thrive perfectly in a warm greenhouse, or at most an intermediate structure. A large plant of this *Bougainvillea* clothing the end of a greenhouse came under my observation, and its behaviour well showed that fire-heat during the summer was by no means necessary, as numerous long flexible

that after an excessively hot summer the following year's display of bloom is generally much above the average. Conditions most favourable to it are a stove or intermediate house temperature, a large structure, so that there is no need to curtail the long rambling shoots, full exposure to light and sunshine, and a thorough rest, induced by a lessened amount of water and a somewhat lower temperature during the winter. The less pruning indulged in with this *Bougainvillea*, the greater the display of blossoms, as the bracts are borne on the previous year's shoots. A particularly fine coloured form of *B. spectabilis* is just now flowering on the roof of the Cactus house at Kew, and close by is a plant of *B. glabra Sanderiana* in the same stage. The *Bougainvillea glabra* figured herewith is, according to a note from Mr. R. Kelly, Kelly, Lifton, Devon, 18 feet wide, 16 feet high, and was planted out in a bed 5 feet 6 inches wide by 2 feet 10 inches deep. It covers part of the east end of a conservatory and part of the roof and is kept dry from October to March.

H. P.

***Acalypha hispida*.**—The splendid group of this plant from Gunnersbury House so well shown at the Drill Hall on Tuesday last affords another illustration of its value. A special point concerning it is its vigour, and the fact that a warm greenhouse satisfies the plant. When first seen it was by many regarded as of the same delicate rooting character as the *Poinsettia*, which is so liable to lose its foliage when overwatered. Any who so regarded it need but have given one glance at the mass of vigorous tree-like roots that were reaching the top of the pot in several instances. These roots alone demonstrate the plant to be one of vigorous constitution and growth generally, and so far as can be gathered by roots alone the plant will readily assimilate rich food in plenty. The majority of the plants previously exhibited have been carefully mossed over the surface soil, therefore nothing could be seen or deducted from the method of rooting. Fortunately, Mr. Hudson had no such covering, with the result that a useful, if not indeed valuable, object-lesson was at hand for all who cared to embrace it. It was not merely a root or two, but large numbers of them, more like the young roots of Fig trees, that were crowding the loam that had been employed as a top-dressing, and seeing the plants carried all their foliage to the pot was further proof of the general condition of the plants. This useful plant is said to be well-nigh perpetual in the production of its rosy crimson appendages, and further that they come in winter as freely almost as at any other time. If this be true there is a future for this plant, which the floral decorator will most readily embrace. In winter decoration it would prove invaluable.—E. J.

Balsams.—Balsams when well grown are very ornamental and most useful for the conservatory when many of the summer-blooming plants are over. As a rule they are not met with in good condition, the chief cause of this being too little heat in the early stages of growth and being kept too far from the glass, together with an insufficiency of air. To grow Balsams well the seed should be sown in well-drained pans in a compost of fine loam, leaf-mould and silver sand, and placed in a temperature of at least 60°. As soon as the seedlings appear they should be placed close to the roof-glass, giving a slight shade on hot days, as the tender leaves are apt to scorch. When the second pair of leaves is formed, the plants should be carefully lifted with the aid of a plant label and potted into small pots, lowering them so that only the foliage is seen. The lowering secures sturdiness and new roots start from the stem. Balsams being gross feeders, a liberal diet must be given. A good holding loam, enriched with plenty of well-decayed manure, with abundance of sand added to ensure porosity, suits them well. Good drainage is necessary, as the plants when in full growth take

liberal supplies of water. A shift into a 4½-inch pot must be given as soon as the roots are working freely, a pot-bound condition being ruinous. As soon as weather permits a removal to greenhouse quarters will be necessary, and although draughts must be avoided, a current of fresh air will be needed to ensure sturdiness. The earliest batches may be grown on until they occupy 9-inch or 10-inch pots, while successional lots will do well in 6-inch pots. Liberal supplies of liquid manure of medium strength given in summer will help the plants much. If placed in a cool, shady house when in full flower they will last some time in good condition.—J. C.

NOTES AND QUESTIONS.—STOVE.

***Swainsonia galegifolia alba*.**—I find the best way to grow this for the supply of its pure white blossoms in quantity for cutting is to plant it out in a rather restricted root-run, giving abundance of water at the root and liberal supplies of liquid manure. Without thorough moisture at the root, red spider is almost sure to attack the foliage. For covering the back of a greenhouse wall up to 8 feet high where a fair share of light is obtained, this is one of the best of subjects.—E. M.

***Campanula Balchiniana*.**—This charming hybrid between *C. fragilis* and *C. isophylla alba*, with its free growth and charming variegated foliage, is a delightful plant to grow in pots for house decoration. The leaves, which, while differing from those of one of its parents, *C. isophylla*, yet resemble them in some particulars, are deeply bordered with white, and the variegation is persistent, retaining its effectiveness all the year. The flowers, which resemble in shape those of *C. fragilis*, are silvery blue. It does well in a gritty soil, requires some shade in hot weather, and should not be over-watered. This variegated *Campanula* deserves to be widely cultivated.—R. D.

FLOWER GARDEN.

FLOWER NOTES FROM SWITZERLAND.

THE summer months have gone, and yet summer, as though loth to die, turns back again and yet again to cast a long enchanting smile across the landscape—yet, Oh! Summer, Summer, why should you die? Yesterday, wreathed in mist, we thought that you had gone—to-day we wake to find the mountain clear as fairyland and sky celestial blue—to-morrow, perhaps, like our English swallows, you may surprise us suddenly by having left. This Sunday morn, bathing in your delicious smiles, I cannot picture that you are near your death. To my left, in dazzling light, the massive glacier fills the valley, behind is a wall of sun-heated rocks, on the right the Bristenstock rises, with its everlasting snows, and before me, across the valley, eight torrents—leaping, gliding, sliding, foaming, now pouring in unbroken streams, now cast into a thousand cataracts—pour on for ever and ever with unceasing roar. In sheltered nooks beneath protecting rocks some summer flowers are hiding still. In the deep shade of the Fir wood groups of pale yellow Foxgloves are seen, mixed with the spiked *Veronica*, beaked Crane's-bill, and blue *Speedwell* stretching to the light. Tremulous as the frail *Dryopteris* amongst which she grows, the *Campanula* shakes her bells amongst the Fern. On sunny banks the vivid green of Strawberry leaves shelters a gift of autumn fruit between the dried stems and ghostly seed-pods of past flowers. The starry heads of the Grass of Parnassus rise everywhere, and on the open sward the lovely *Alchemilla* leaf, like pale green velvet shot with grey, creeps out to meet the green Whortleberry. Great bushes of giant Balsam scent the air, and the autumn Gentian makes tall masses of deep blue. On the higher Alps, where

the white goats wander with their tinkling bells, the last sprays of wild Thyme and purple Heather make the short turf sweet, and higher yet again, where marmots are heard squeaking and all undergrowth has ceased, a lovely scheme of colour charms the eye—tall Thistles, whose large silver flowers mix with heads of deep blue Aconite upon a rock-ground of tender grey. Only upon the ledges and dripping banks, beside the waterfalls in the valley, is plant growth still luxuriant and rich. Heavy heads of Valerian, with its thick juicy leaf, Monkshood, Willow Herb, and many other noble water plants dance in sun and shade, hiding amongst the magnificent fronds of damp Fern that bend beneath the constant cloud of gold-besprinkled spray. But space is too limited to describe the beauty of flowery Switzerland, even when she is wrapped in a sad September shroud. M. C. D.

Maderanerthal.

Hardy Fuchsias.—How pleasant it is to see huge clumps of these Fuchsias growing out of doors year after year without any protection. It would be difficult to find them more numerous in one locality than is the case around Cromer, in Norfolk. There they grow in almost every cottage garden, many close to the sea, and appear to revel in the sandy soil and pure air. Some exceptionally fine specimens are to be seen in Lord Battersea's garden at Overstrand, many of the clumps being 8 feet high and as much as 16 feet in diameter. These growing singly close to the paths have a fine appearance when smothered, as they were in August, with their purple blossoms. How much better an effect they would produce if they were growing on the grass independently of any other subject where their whole beauty and natural grace could be seen.—E. M.

Aster F. W. Burbidge.—This deserves a brief note. It was raised at Newry by Mr. T. Smith and sent out in 1896. One finds it difficult to describe the colour of many of the Starworts, and the variety under notice is no easier in this respect than many others. I see it catalogued as "soft rosy blue" and as "a lovely shade of rosy lilac." I think the latter description comes nearer to the colour than the former and is sufficiently close to give a good idea. The flowers are large, and even in my light soil they are as big as a half-crown, and must be considerably larger in stronger soils. This season it has grown upwards of 4½ feet high. The flowers are very freely produced, and the first opened this year about the beginning of September. Aster F. W. Burbidge appears to belong to the *Novi-Belgii* section.—S. ARNOTT.

***Acæna Buchanani*.**—About two years ago I made my first acquaintance with this charming New Zealand Bur in the rock garden at Glasnevin. What delighted me was the beautiful colouring of the foliage. From want of a better term one may call it "pea-green," although this fails to convey an idea of the prevailing hues of green which compose the colouring of the finely-divided foliage of *A. Buchanani*. This year, through the kindness of a friend, I have been fortunate enough to obtain it for my rock garden. Although of free growth, it does not appear to have the encroaching habit of some of the New Zealand Burs, and should this be one of its characteristics it will be the more valued for the choicer parts of the rock garden. At Glasnevin this year and at Carton it appears to retain this less rampant feature. I have not seen it in flower or fruit, but I anticipate that when in bloom it will lack the brilliance of *A. microphylla*. *A. Buchanani* is grown at Kew, but does not appear to have generally found its way into commerce.—S. ARNOTT.

***Helenium autumnale superbum*.**—A tall, freely-branched, and freely-flowered example of this composite obtained the award of merit of the Royal Horticultural Society at the Drill Hall last week, and the same variety may now be seen

flowering at Kew at the end of the mixed hardy plant border hard by No. 7 greenhouse. At Kew the plant is nearly, or quite, 8 feet high, and attention is directed to it to inquire whether the adjective is here applied solely because of the increased height the plant attains. So far as the flower-heads are concerned, these are much smaller than in the plant usually sold as *H. autumnale* (type). By a singular coincidence also, the plant at Kew, scarcely normal even in the lower portions of the stem, develops into a broad, flattish, fasciated stem in the upper parts, the same thing, only considerably less in degree, being noted in the example that obtained recognition at the hands of the floral committee on the 6th of last month. Under these circumstances it would be interesting to know whether this fasciation is characteristic of the variety, as it does not usually appear in the typical species.

THE BURMESE LILY.

(*LILIU M OCHROLEUCUM*.)

A FRIEND of mine received a number of bulbs of this fine Lily two and a half years ago from his son in Burmah and gave me a few of them. They have now been over two years in the open ground, merely covered with ashes in the winter, and have flowered well. The accompanying illustration shows one now in flower. The stem is 6½ feet high and the flowers are each 6 inches long by 5 inches in diameter, but the long drought this summer and a rather poor soil have reduced their size, as some grown by my friend in pots last year were much larger. They grow on the Shan plateau about 4000 feet to 5000 feet above the sea in tall grass, which protects their stems and roots from the heat of the sun. The soil they were growing in is a deep red loam, and any fairly good loam will no doubt suit them, my soil here being too sandy and poor to grow them to perfection. If planted rather deep and protected from frost in severe winters they will probably be quite hardy in the south of England.

Parkstone, Dorset.

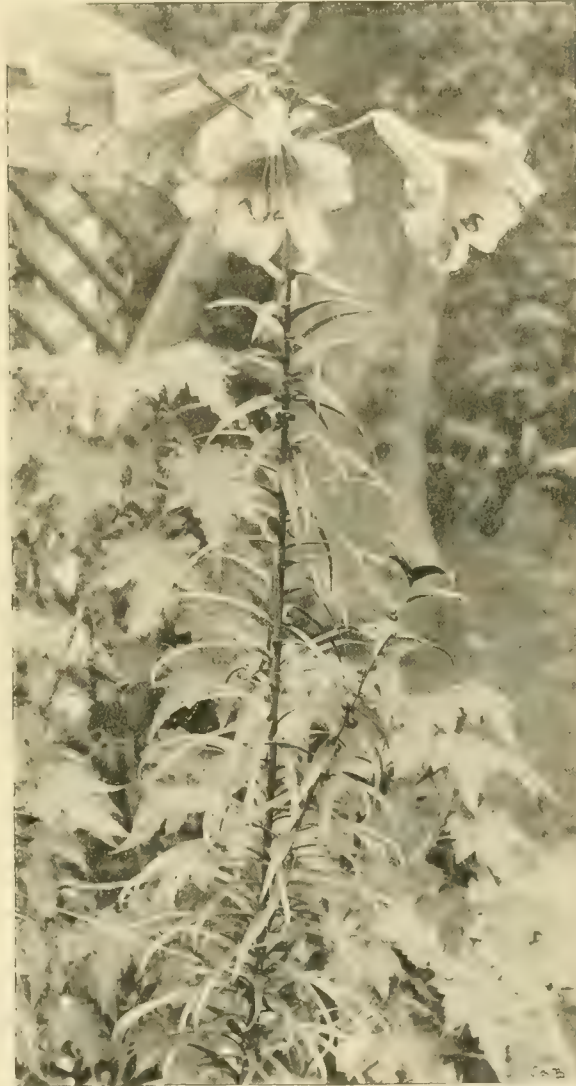
A. R. W.

Calandrinia Tweediei.—This species, which is a recent introduction, has been mentioned once or twice of late, but so far, I think, no note has been made of its very profuse flowering, which, happily, appears to be general. Indeed, it is so at West Kirby, in Cheshire, and also in the Royal Gardens, Kew, where a nice colony of the species exists, the flowers being freely borne on slightly forked and rather succulent stems. A similar freedom of flowering exists in my solitary example. The plant is so distinct and really first-class that one cannot but desire its complete hardiness in this country. The hot, baking sun of the year, considerably prolonged beyond that of average summers, has exactly suited this excellent subject, the individual flowers of which are the size of a half-crown piece, and therefore attractive.

Michaelmas Daisies and the dry weather.—These are not nearly so fine this season as last year. The long-continued spell of dry weather has caused the plants to lose their foliage, and several varieties have flowered much earlier than usual. *Aster Shorti* came into blossom all of a rush, and was over in a few days, leaving the plants in a most miserable and impoverished condition. *A. Novi-Belgii lævigatus* is already over, and has never been satisfactory with me this season. *A. acris* was very short-lived. *A. cordifolius* with its soft mauve blossoms has always been an especial favourite, but at the moment looks anything but like its usual self. On the other hand, the following are coming along better, and look decidedly promising: *A. Amellus bessarabicus*, *A. N. D. Harpur-Crewe*, *A. Coombefishacre*, and some of the later sorts.—D. B. C.

FLOWER GARDEN NOTES.

THE large batch of hardy perennials raised from seed in the majority of cases having attained very considerable dimensions, and likely if left longer in the nursery beds to suffer from removal, has induced me to start rather earlier than was at first intended transferring them to permanent quarters. I should have preferred lifting the whole of the plants at present in the borders, and, after bastard trenching, replanting the best of them with the new stuff on hand, but as time and labour will not admit of such a thorough renovation, I propose clearing away things hardly up to date among hardy plants, and, after a careful preparation, replacing them with the batch of



Lilium ochroleucum in a Dorsetshire garden. From a photograph sent by Mr. A. R. Wallace, Parkstone, Dorset.

seedlings. The borders were rather hurriedly filled in some years ago with almost anything that came to hand; consequently the infusion of new blood will give a better and a more varied display. The soil is naturally poor, especially in spots that have been occupied by those plants that, to use a common phrase, "take a lot out of the ground," and so I am working in plenty of cow manure, burying the same at such a depth as will admit of the roots of the newly-planted stuff getting a good hold of it. In the front rank I shall find it advisable to do away with nearly all plants already in the border, for on this light soil anything that does not get a firm, deep grip of the ground is not so good the second season.

Let me note here that, whilst fully alive to the facilities for filling such borders by the aid of seedlings, cuttings, layers, or division, it should be remembered that at the first planting or replanting where first-class things are not in stock, the operation will be a little expensive. An idea seems to prevail that hardy plant borders may be filled with little or no outlay. So they may, doubtless, in a sense, but now that in the majority of species there are so many first-class things, it seems a pity not to plant of the best. Poor varieties are no credit to the planter, and are very disappointing to the owner when he comes to witness the display made. I have before suggested, where facilities for purchasing in quantity

do not exist, the advisability of buying two or three in each case of really good things, planting them in well-prepared nursery beds, so that at the end of the next season a good stock may be obtained. Preference should always be given not only to good things in the way of flower, but to those that can be depended on to grow and bloom freely. Miffy subjects must be distinctly avoided on permanent borders.

CARNATIONS.—A recent editorial note that insisted on hardy varieties of free, vigorous habit was emphatically the right thing for the subject under discussion. What is the use in such positions of sorts that will only throw two or three weakly bits of grass, and perhaps only a single flower-spike? They may be all very well in isolated positions if the flower is exceptionally good, but to furnish a broad breadth of bloom they are practically useless. Sorts vary considerably in different soils and situations, and also in seasons as a rule. Hayes' Scarlet, Murillo, The Pasha, Countess of Paris, Carolus Duran, Mrs. Eric Hambro', and Miss A. Campbell are first-rate. The two last are rather straggling, with extra long flower-stems, and require naturally plenty of support, but as respectively a hardy, free-growing white and yellow they are about the best I have tried. Pink and white Cloves are grown, but the old crimson had to be discarded on account of its susceptibility to disease. It is very strange that it is so. One could understand the matter a bit if all the Cloves were attacked and the finer, less succulent grass escaped, but that the crimson planted between the white and pink should be covered with the spot and the other two perfectly clean is to me one of the mysteries of Carnation growing.

STATICE LATIFOLIA.—Reference was made last season to a batch of seedlings of this so far as variation in colour, size of individual flower and panicle, and early or late blooming were concerned. The variation is quite as pronounced this year, and I would strongly advise the raising of a batch of seedlings. They will be found exceptionally valuable for cutting.

E. BURRELL.

Hop-covered archways.—Few things have a more elegant appearance as a covering for garden archways than the common Hop. A capital temporary arch may be made over a grass or gravel walk by planting on each side a stool of

Hop roots, then taking about eight long limp Ash rods, sharpening the stout ends, and inserting them securely into the soil, four on each side, bending them over till they meet, then tying them together, fixing a few cross pieces of wood to hold the poles in position. The Hop growth quickly covers them. The arch can be taken down for the winter as soon as the haulm dies down. Wire arches are often met with partly covered with Roses and other things. These when bare of foliage during winter are anything but ornamental even in a kitchen garden.—J. C.

Cannas.—What an admirable addition to our gardens in autumn is the new race of dwarf-flowering Cannas. Each year brings us improvements on the older varieties, and as hybridisers both at home and abroad are engaged in the attempt to make them more perfect, we are likely to be confronted with the difficulty of selecting those that are the best. The flowers are much larger, rounder in petal, and perhaps more striking in colour than they were two or three years ago. Although they may be used in filling up the gaps in borders made by the early spring bulbs, and are very effective for this purpose both from their striking foliage and bright flowers, yet unquestionably they are seen to the best advantage when planted in a bed by themselves. I think it is a mistake to put anything else in the bed so as to form a carpet for them; they stand out so well and their broad and ample foliage does not associate well with those bedding plants which are sometimes placed with them, whilst if space can be spared, it will be, of course, better to have beds of the dark-coloured varieties and others of the yellow-spotted and yellow-margined kinds; but in small gardens this can hardly be effected, and they look very well when mixed together. They are also easily kept during the winter, requiring much the same treatment as Dahlia roots, though perhaps it is better to keep them a little moist. They are also very easily propagated, so that a good stock of them can easily be acquired.—D.

The Flame Flower (*Tropaeolum speciosum*).—It is now some fourteen or fifteen years, perhaps more, since I first saw this brilliant Nasturtium. I had gone to the south-west of Scotland, and when I first saw it on the front of a cottage near Newton Stewart I was amazed at its brilliancy, and wondered how it was one never saw it down south. I saw it there in all directions, covering the churchyard wall of the Episcopal church close to that place. I saw it on many a white-washed cottage, whose walls threw out in great relief its brilliant flowers and bright green foliage. I saw it climbing up the front of a manse in the Trossachs, and throwing itself in wild profusion over the Apple trees in the garden of Penninghame Castle. I was told it was a perfect weed wherever it got established, and of course naturally I desired to try it myself. I have done so for many years, and yet in every instance it failed. I was very much surprised, however, to find that Mr. S. Arnott should have failed with it in such a situation as Dumfries. I was told that it required a north aspect and plenty of moisture, so I placed it in such a position, but with no good result. I found the roots running about in all directions, throwing up shoots but not flowering. I have made an effort again this year to overcome the difficulty. I received some fine roots and placed them in a basket (the bottom of which had been knocked out) in well-mixed light compost, and then plunged them in a north border close to a bush. They have made good growth, run up into the Guelder Rose just by, but as yet have shown no flower. I hope, however, that next year I may have some better success. I cannot but think that the moist climate of Scotland has a good deal to do with it. I know that it can be grown in the south of England in some places; I have seen it flourishing on the walls of Berkeley Castle, in Gloucestershire. Mr. George Paul tells me that it succeeds with him at High Beech, in Epping Forest, and Mr. Harry J. Veitch tells me it is the one thing that has not disappointed him in this droughty season at East

Burnham Park, near Slough. I have not seen much notice of it in Devonshire, but I should think the character of its climate would suit it admirably.—DELTA.

PLUMBAGO LARPENTÆ.

THIS is justly a favourite among our late autumn flowers. Of a fine shade of blue, its blooms look very attractive in a mass on rock-work, while later its foliage dies off of a very effective colour. It is, so far as I know, synonymous with *Ceratostigma plumbaginoides*, the name adopted in the Kew "Hand-List of Herbaceous Plants," although the compilers of the "Index Kewensis" have not apparently recognised this in their magnificent work. When first introduced into this country much was expected of *P. Larpentæ*, and as at that time there was a great demand for new plants it was eagerly sought after. It was said at the time that orders amounting to no less than £5000 had been booked for plants of this Leadwort in nine months. The price at first ranged from £2 5s. per plant to £3 13s. 6d., but rapidly declined, so easily was it propagated. This was in August, 1847, the *Plumbago* having been sent to Sir George Larpent in May, 1846. It was found growing out of a crevice in the city wall of Shanghai—at least, so says the "Floricultural Cabinet" for January, 1848, where a fairly good coloured plate appears from a plant belonging to Knight and Perry, King's Road, Chelsea, who owned the stock. It was exhibited by Sir George Larpent's gardener at the exhibition of the Royal Botanic Society in July, 1847, and was figured in the *Gardeners' Chronicle* for that year. Dr. Lindley is the authority for the name at the head of this note, but that of *Ceratostigma* was given by Bunge. It is to be regretted, however, that Bunge's name is so cumbersome, and in the interests of the flower itself, as well as of those who try to grow it, we are, I think, justified in adopting Dr. Lindley's in preference.

It is interesting, in view of its present position, to observe the references to Lady Larpent's Leadwort in the columns of the horticultural press of fifty years ago. The late Mr. D. Beaton wrote enthusiastically in its praise, apparently commending it as a greenhouse and window plant. He confidently predicted that it would soon be found in every cottage in the land. Various kinds of treatment were tried, among others that of the stove, which proved very unsuitable. Many and bitter seem to have been the disappointments experienced so far as we can judge from the correspondence in the gardening papers of the time. However interesting this retrospect may be, we are perhaps more concerned with the present and future of the plant as a hardy flower, which is its proper sphere in our British gardens. It is to be feared that many have been baffled in their attempts to bloom this Leadwort in consequence of its late-flowering habit and its disinclination to bloom in cold districts and situations. This is very unfortunate, as plants of similar character coming into flower in late autumn are none too plentiful and are highly prized. In my garden I find no difficulty in blooming it annually; but then it is grown in the hottest and driest part I have in the garden, and is besides in very light and sandy soil, made poorer still by reason of the roots of a hedge which is behind. At times, in prolonged drought, *P. Larpentæ* appears to suffer, and may require occasional watering in such a position as that referred to. The principal consideration—plenty of bloom—is, however, obtained, and when the flowers are over the tinted leaves are very beautiful. Such is the treatment I should

recommend to those who cannot flower it. Given a high, dry, and sunny position in light soil, there is, I think, little fear of success, except in districts having exceptionally cool summers. Another method is suggested by the place in which *Plumbago Larpentæ* is said to have been found, and that is to grow it as a wall plant. The difficulties of establishing it once overcome, and a summer or two being over, it ought to be a success on a sunny wall, where its deep blue flowers would look very effective. I venture, therefore, to plead with those who have suitable positions in their gardens on behalf of this beautiful dwarf plant, too seldom seen now, but wherever seen much admired. S. ARNOTT.

Cursethorn, by Dumfries, N.B.

Phygelis capensis.—It is quite possible that this beautiful and striking plant, to which Mr. Arnott directs attention at p. 219, will be more generally hardy on the wall as referred to, and of course much less vigorous in habit. I do not think, however, the full worth of this beautiful plant will be forthcoming in such a place. At the same time it is interesting to know of its success so placed, and I take it also to be quite hardy on the wall at Glasnevin, which is not always the case in the rock garden or border.—E. J.

Salvia patens alba.—I think I saw this somewhat rare plant for the first time when in St. James's Gardens, West Malvern, recently. It is a pure white reproduction of the well-known *Salvia patens*, which is there grown in great quantity. How very rich in unison are these fine deep blues with the intense scarlets of the tall *Lobelias*. These, again, are grown in rich abundance, and some I observed even planted right into the water in pond edgings, where they were doing finely. It will be interesting to see in this case whether the plants, thus made aquatics, seed as freely as they do under somewhat similar treatment at Sandhurst Lodge.—A. D.

Ageratum Perle Bleu.—If those who like soft blues in their flower gardens for margins or carpets, and dislike blue *Lobelias*—the most unsatisfactory of all summer bedders—would use this beautiful dwarf and continuous-blooming *Ageratum* they would have the very best thing of its kind. I have seen various *Ageratums* in gardens, generally dwarf, irregular and unreliable, and not infrequently going blind and throwing gross leafage only. I have seen this *Perle Bleu* in two gardens, and in one of these it was known under another name. Its average height after a first pegging is 6 inches. The plants can be propagated best in the spring, old ones being lifted, potted, and kept through the winter in a greenhouse to furnish stock.—A. D.

Hardy flowers from Winchmore Hill.—I send you some seedlings of *Aster Amellus*. Beauty is very fine, but of course a small spray cannot convey the slightest idea of its beauty. My plants, which are nearly 3 feet through, are lovely. *Helenium pumilum magnificum*, which I sent you last week, is the very finest plant I have in flower now, growing under 3 feet and in bloom for several months; it is one of my seedlings. *Tritoma Macowani* (Perry's variety) is also very distinct. I think a dwarf race of *Tritomas* would be very useful, and I intend trying to make a collection. I have a fine batch of seedlings and some very distinct, striking forms. *Gypsophila Rokejeka* I know nothing of. It is a true perennial, hardy, and a very striking and useful plant; it is very late flowering, and grows about 4 feet high.—AMOS PERRY.

Campanula pyramidalis.—Seeing the great beauty and general decorative value of this fine old plant, the question seems naturally forced upon one whether anything approaching an adequate use is made of so good a subject in the garden generally. The plant in question has no equal, and a subject so unique may at once be

regarded with some favour. Doubtless this was so when the fine old charming Chimney Bell-flower was more of a novelty than it is to-day, yet the plant has lost nothing of its old-time beauty and effectiveness, and is as still worth special care as ever it was. In some gardens special care is given the plant, and it is grown in considerable numbers in pots with excellent effect. In the open garden, where a mixed bed of it would prove almost a unique feature, the plant is rarely even tolerated. A few days since, however, I noted plants of it at Gunnersbury House growing in near proximity to a Yew hedge, the effect being a general lighting-up, as it were, of this usually sombre tree. It is true the plants do not flower the first season when raised from seeds, but if not sown too early in the year they would make splendid examples and produce flowers in quite a wholesale sort of way the following summer. In the year of growth from the seedling any bed so planted with them may be beautified with such things as Gladioli, Tigridias, Hyacinthus candicans, or the like—anything, in fact, that would not too greatly rob the soil of its nourishment. Thus grown, I feel sure the old Chimney Campanula would prove most effective, especially if planted in its varying shades of blue and white.—E. J.

NOTES AND QUESTIONS.—FLOWER.

Zauschneria californica.—I have two objections to this very beautiful Californian herbaceous plant. One is that unless in dry, sunny seasons like the present it cannot be got to flower; the other is that, owing to its underground growth, it is apt to assert itself too strongly, and requires a good deal to be taken away every year. In seasons like the present it is, however, delightful.—DELTA.

Agapanthus umbellatus.—This African Lily is deserving of greater attention by planters for the decoration of the rock garden in August and September than it at present receives. Plants with blue flowers in the outdoor garden are at all times scarce, especially so during the months named; therefore, any that succeed are deserving of attention. The small blue flowers are produced in umbels on stems 2 feet high.—E. M.

Lobelia cardinalis.—The finest examples of this herbaceous Lobelia I have ever seen I noted last month at Blickling Hall, in Norfolk. The flower-spikes were 6 feet 6 inches high and very stout. Growing in a mass in the flower garden there, surrounded by well kept grass, this bed was a sight to remember. The plants were mainly restricted to one stem, which of course encouraged taller growth. We do not see nearly enough of this plant in gardens, certainly not so much as its merits deserve.—E. M.

Lilium auratum platyphyllum. I recently saw a charming group of this Lily growing in Lord Battersea's garden in Norfolk. The clump has been established four years, and certainly made a grand display in the month of August, many of the stems being 8 feet high. The bulbs were growing in an angle of the mansion having a north-western aspect which provided partial shade. To these cool and moist conditions Mr. Clemence, the gardener, attributes much of the success obtained in growing this variety of *L. auratum*.—E. M.

Lilium speciosum Melpomene.—This, I think, is the most brilliantly coloured of all the varieties of this beautiful class of Japanese Lilies. It has, moreover, the advantage of being very vigorous in habit. My clump of it seems to have stood the drought well, and has been in its present position for three years. All the varieties of the *speciosum* tribe are very valuable for autumn flowering, and, although not so showy as *auratum*, are very beautiful both in form and colouring, while their perfume is delicate and not of the overpowering strength of their more showy relative.—D.

Dwarf French Marigolds as hot-weather plants.—I have not seen any plant that has stood the heat and drought so well as the dwarf double yellow Marigold (*Calendula aurea floribunda*). I have a number of plants in the hottest and driest part of my garden, and while everything else about them is literally roasted up, the Marigolds are fresh and green and bloom abundantly, and the blossoms are fully double. The dense foliage seems to keep the soil cool about the roots, preventing that amount of evapora-

tion which during such weather happens in the case of soil more openly exposed to the action of the sun.—R. D.

DESTROYERS.

WASPS.

As a slight addition to the interesting article on wasps and their destruction, especially with reference to the paragraph as to prizes for queen wasps at local shows, I should like to again advance a suggestion made some two or three years ago when the insects were very troublesome, that parish councils might be induced to take the matter in hand and offer a slight remuneration both for the finding and destruction of nests in their respective areas. War is generally waged against them in the majority of private places, but outside the boundary of these little is done in the way of destruction, and the proportion of nests annually destroyed in any given district is necessarily small. We read this season from many places that market growers of fruit complain greatly of the loss experienced from their attacks, and tradesmen whose wares are attractive find them an intolerable nuisance. It is therefore only reasonable for the gardener to ask for a little co-operation in the way of extermination. If the wasp was fully alive to its power of annoyance and made ample use of the same, fruit gathering this year would be a dangerous business; it is, fortunately (popular opinion notwithstanding), not a combative insect unless much provoked, and if care is exercised there is not much danger of stings. I see Mr. Strugnell mentions damage done to Pears. Has he noticed if wasps are altogether responsible for this or if they follow in the wake of tits? The latter is the case with me, the birds first tapping the fruit and the wasps only too ready to take advantage of the perforation. This season with nets all along the Pear wall so fastened that birds cannot find an entrance the fruit is sound and wasps are absent. So far as the softer fruits are concerned, bees at this season of the year are quite as destructive as wasps. Fortunately, the later Peaches and Nectarines, as the Admirables and Humboldt, are both firmer in flesh and tougher in skin than the majority of the earlier sorts. I have now made a clean sweep of the earwigs, and those mischievous insects are no longer responsible for a first tapping of ripening fruit.—E. BURRELL.

—The number of wasps in Lincolnshire this summer amounts almost to a plague. In some parts of the district so numerous are they as to be perfectly intolerable. In the gardens and orchards they have made much havoc among the fruit, especially Plums, and much of it has been rendered unsaleable.

—These have been terribly destructive in this part of the country, and it is many years since they were so numerous as they have been this season. In the early part of the summer we were congratulating ourselves on their apparent scarcity, but as soon as the hot weather set in they appeared literally in swarms. This, it must be said, was a matter for great surprise, seeing that steps are taken every year to reduce their numbers as far as possible by taking all the nests that can be found within a radius of a mile from these gardens. However, when they put in an appearance a diligent search led to over 100 nests being found in a fortnight, and since then a great many more have been found in the park, plantations, and fields adjacent to the gardens. These have all been destroyed by means of squibs made of brown paper and rock powder, the fumes of which when the explosion takes place soon settle accounts with the wasps and enable the nests to be dug out directly afterwards. It should be added that a piece of turf or a spadeful of soil is placed over the mouth of the nest to render the escape of the fumes impossible. The nests are marked during the day with a peeled stick or some such distinguishing sign, and then a man and boy go round and take them after dusk. As an incentive I give 4d. for each nest destroyed,

and by so doing have the satisfaction of knowing that all are got rid of within a reasonable limit. If all landowners would do this their numbers would be greatly reduced, and it would also go a long way towards practically exterminating them if followed up successfully for a few seasons.—A. W., Stoke Edith, Hereford.

Birds v. insects.—During the present summer insect pests of all kinds have been unusually abundant, for, favoured by fine bright weather and a remarkably still, warm atmosphere, they have led a charmed life, and for weeks past cobwebs and exceedingly large spiders have completely interlaced twigs and branches, until one had to force his way through the branches of fruit trees as if a light gauze net were in front of him. Then the number of white butterflies was remarkable, and, as might be expected, was followed by such a plague of caterpillars that green crops have disappeared and only the skeleton of the leaves is left to mark the spot where green crops lately stood. All this mischief to gardens is mostly due to the long-protracted drought, which has not only favoured the multiplication of insect pests to an enormous extent, but has also brought vegetable crops into a weakly condition, so that they are unable to grow away from their enemies. There is yet another reason that to my idea has greatly favoured insect enemies, and that is the wanton destruction of birds that live mostly on insects. Birds that used only a few years ago to be very plentiful are now getting rare by reason of wholesale slaughter on the coast of this and other countries. Even our own native birds are getting very scarce. There is little doubt that, although some of them are troublesome at seed time and during fruit harvest, they exist the greater part of the year on insects, and we are now paying the penalty of destroying them.—J. G., Gosport.

KITCHEN GARDEN.

EARLY POTATOES.

I HAVE lifted the main lot of early Potatoes to-day (September 1). The tops were scarcely ripe, but the skins of the Potatoes are firm. They were planted the middle week in April in rows 3 feet apart on well-cultivated land in an old kitchen garden. The only manurial assistance given was a good sprinkling of charred garden refuse up each row when planting; otherwise the ground was all treated alike. I usually plant the main lot of Brussels Sprouts between the rows of early Potatoes, hence their being put 3 feet apart. Since the late soaking rains the sprouts have grown very fast; for this reason I lifted the Potatoes before they were fully ripe. I give the weight of tubers per row, which were of equal length, viz., 18 yards. I am glad to say I saw no signs of disease. (1) Racehorse, per row, 6½ st.; (2) English Beauty, 7 st.; (3) Veitch's Ashleaf, 5½ st.; (4) Forerunner, 5 st.; (5) Corduke, 6 st.; (6) Sharpe's Victor, 3 st.; (7) Sandringham Kidney, 6½ st.; (8) Rivers' Royal Ashleaf, 4½ st. No. 1 is a selection of my own, which I have grown for many years. No. 2 is a first-rate heavy-cropping early Potato; the quality is good if not used too early in the season. In this respect it does not come up to some of the Ashleaved varieties. I tried it in pots last spring, and it was the first fit to use. At that season of the year (April) quality is not so much noticed, perhaps, as later on when the outdoor crops come in. Anyhow, those of your readers who have not grown English Beauty may fitly do so. No. 3 is an old friend I should not like to be without, though it does not crop so well with me as No. 1, which was a selection from it. No. 4 is a useful kind on some soils in this district. With me it is not so good as others, hence will

not be grown again. No 5 is a heavy-cropping, good selection of the old Ashleaf. It was given to me for trial two years ago. No. 6 is too well known to need description here. For very early crops of high table quality it is still worth a place on a warm south border. No. 7 is also well known to many of your readers as a good selection of Ashleaf. My stock has been grown here for twenty years. It is very similar in all respects to No. 3, viz., Veitch's Early Ashleaf.

H. J. CLAYTON.

Grimston, Tadcaster.

Lettuce in hot weather.—Few things have been grown under more difficulties this season than the salads, Lettuces especially having suffered badly. In many gardens where the old system of transplanting is carried out failures will have been plentiful, as the plants, unless grown where sown, cannot stand the heat and drought. My best Cos is Intermediate, a cross between the Cos and Cabbage, having an upright growth and remarkably solid heart, which is of fine quality and remains firm for a long time. The leaves are of a bronzy colour and very succulent. Another better-known Lettuce and specially good in such summers as we have just experienced is Continuity. I have had two or more distinct types of the latter, but the best is a dark-leaved dwarf form.—G. W.

Lifting Potatoes.—Many of our late Potatoes are smaller than usual this year, owing to the heat and drought. There will be no gain after this date—the end of September—in leaving the tubers in the soil should we get a spell of wet weather after such a protracted drought. I am aware in some places late planting is advised, but I fail to see the value of it. Even in the most favourable seasons late planting is not advisable, as the tubers planted early are freer from disease, and in seasons of drought, by getting a firm hold of the soil, make a better growth. Of course, by lifting as now advised more care will be needed in storing. I find by placing in heaps where grown, merely covering over lightly for a few weeks, it is an easy matter to examine the tubers. I prefer clamping to placing in rooms or cellars. Late Potatoes keep much better stored as advised. If desired, seed may be selected previous to clamping or placed on one side when placing in bulk.—S. M.

Onions and Cabbages.—I noticed, when recently at Madresfield Court, that the same rotation in relation to these vegetables existed there that may be seen at Hackwood Park. At the former place I observed the summer Onion crop—a very good one, although the bulbs were not large—was being cleared off and laid out on a gravel floor to fully ripen. So soon as the ground was cleared, a man ran one of the Wilson Junior wheeled hoes over it, stirring the surface fully 2 inches. Then another labourer followed with what I had never before seen similarly employed, a big iron-toothed hay or corn rake, which drew off all the coarser weeds. That would leave the surface ready for at once planting with Cabbages. But here it is not the case, as at Hackwood, to solely alternate Onions and Cabbages, as the Onions follow Celery, and Cabbages follow the Onions, thus making an admirable rotation.—A. D.

Planting Cabbage.—Owing to heat and drought I find the seedlings this season poor, no matter how well attended to in the way of moisture. To ensure a clean plant it is well to take a little extra trouble at planting. A thick solution of soot and lime, or, what is better, finely powdered sulphur, will do much good if the plants are dipped and all parts of the leafage covered with the mixture. There are other evils to contend with this season, and one, I fear, will make sad havoc among the plants, viz., blindness, which is very prevalent this year owing to the great heat. Fully half my plants are useless from this cause. It is very annoying, as the season being so far advanced one cannot make up lost time. Some

good stock for later use may yet be secured by sowing for that purpose. Of course for first spring cutting the July plants must provide the supply. Finding the second sowing germinated badly, I sowed at the end of August some seed in cold frames, kept it shaded at the start, and have secured a lot of strong seedlings. These will be pricked out into rows when we get a change in the weather. The plants by the end of November will be sturdy and fit for planting at the end of February or early in March. It may be thought a supply could be obtained by sowing in heat early in the year, but this sowing will be much later. In seasons of scarcity I have sown this month in a cold frame and exposed the plants when possible. The Cabbage crop from April to the end of June is so important that it cannot be neglected, and difficulties met now will save time early in the new year.—S. M.

Potato lifting.—Under the most favourable conditions as far as weather is concerned, the lifting of Potatoes is going on apace, and when the nature of the season is taken into account it is astonishing how well the crops are turning out. The tubers are large, well ripened, and very clean, while the cooking qualities of all that have been tested up to the present time are very satisfactory. To judge by the appearance of the tubers as they lie on the ground, a casual observer would think they had had an abundance of moisture to support growth right through the season, whereas the opposite has been the case. The last occasion on which rain fell here in sufficient quantity to thoroughly moisten the ground was during the last week of May and the first week in June; since then we have only been favoured with an occasional shower. Such being the case, the results are very satisfactory, and it proves that heavy crops may, and can, be grown even in a season of drought on deeply-stirred ground. With one exception the crops alluded to have been grown on soil so treated, and I have found this "deep stirring" to be of the utmost value, not only for Potatoes, but other crops as well, during the past three seasons, when similar climatic conditions have had to be contended with. It is also pleasing to note that disease is, if not entirely absent, certainly of a trifling character, as but a few tubers have been found to be affected. The crops as lifted are being carried direct to the Potato store, the tubers being laid out thinly until quite cool and all danger of sweating is past, when they are placed thickly together. When such a convenience as a Potato store exists, this is the best way to manage Potatoes, as they can always be conveniently overhauled, independently of the weather, such work affording employment on wet days, or when the hands are unable to get on with outdoor work.—A. W.

The autumn vegetable supply.—With the majority of growers the outlook as regards the autumn supply of vegetables is none too rosy, and in nine cases out of ten this is unavoidable, as the soil during August and September has been in such a parched condition that growth has been much retarded. In many cases the water supply has been none too great; in others the labour to apply the same far too limited; while in many cases moisture when given is, owing to the nature of the soil, so soon spent that it does little good, merely keeping the plants alive. I fear the late Pea crop will be poor. I was obliged to root up the plants, as they presented a sorry spectacle in spite of the moisture given. Peas will not thrive with the thermometer at nearly 90° in the shade with the best attention if the soil is resting on a hot gravel subsoil. Salads for present use are none too plentiful. With cooler nights and rain matters will soon right themselves, as the plants grow quickly. One cannot do better than hoe freely and feed with liquid to get rapid growth. Lettuces delight in a cool, rich root-run. Cauliflowers are scarce and far from clean. Though these plants are so tender, they suffer from heat sooner than most vegetables if there is an absence of moisture. Much may be done to encourage growth in Cauliflowers and the early autumn Broccoli by mulching with

litter or spent manure. The Brassicas of most kinds are poor, and Coleworts have not made the progress one usually sees. Spinach, owing to the heat, is poor, but with cooler nights and moisture it will soon recover. Seed sown now rather thinly will make up for losses in the spring. The best autumn vegetables this season are those that have been planted in land not dug. Of course, with a genial rainfall and the earth in a warm condition growth now will be rapid. The autumn is now so near, that there is a danger of such tender growth being cut down by frost, so that the outlook is none too promising.—G. WYTHES.

NOTES AND QUESTIONS.—KITCHEN.

Tomato Up-to-Date.—Mr. Allan, of Gunton Park Gardens, thinks highly of this Tomato, and certainly from what I saw of it at the end of August he has just cause. The plants were growing in a deep pit, trained on wires close to the glass. The crop was enormous, clusters hanging quite thickly from the base to the top. In one cluster I counted two dozen fruits, and there was plenty of bunches with eighteen fruits. The fruit is of medium size, quite smooth and round.—E. M.

Hicks' Hardy Cos Lettuce.—Gardeners do not often grow this Lettuce, judging from the few one sees of it in various gardens. I saw a magnificent batch of it in the Gunton Park Gardens at the end of August. When we remember the extreme dryness experienced at that season it says much for this Lettuce as a drought resister. The heads in question were large, solid and crisp. As a winter variety, too, this is one of the best, rivalling even the old Bath Cos or even Brown Champion.—E. M.

Tomato Melton Seedling.—This appears to be a desirable variety. Mr. Shingler, gardener at Melton Constable, raised this variety by crossing Nisbet's Victoria and Perfection. As a free-fruited, medium-sized variety it has much to commend it. The colour is bright and the flavour all that can be desired. The Tomatoes here are grown in 8-inch pots plunged in leaves and soil. The roots grow through the bottom of the pots, thus giving a greater freedom of growth, yet sufficient check to induce the formation of a full crop of fruit.—E. M.

GARDEN FLORA.

PLATE 1190.

THREE WINTER-FLOWERING HEATHS.

(WITH A COLOURED PLATE.*)

WITH such winters as the past one might wholly change the aspect of our gardens in winter by the bold artistic use of several of the Heaths of Europe, which often bloom at dawn of spring, but in the past winter covered the ground with colour as pretty as any of the flowers of summer. The first of these is the Portuguese E. codonodes, a most delicate, beautiful shrub, in our country flowering from December, and a great aid in southern and mild districts. It is more delicate in colour than the true Heath with its little bright buds, and is a very charming shrub. Secondly, E. mediterranea hybrida, which is probably a cross between the alpine forest Heath, E. carnea, and either the true Heath or the Mediterranean Heath. It is quite a new and most precious thing for gardens generally, and last winter it flowered with us in the south of London the whole of the winter—that is, from the beginning of December it remained far into the spring, a most delicate colour. Lastly, our old friend E. carnea, which has long proved its value, though it is not often used in the most effective and artistic ways. The best form of this is a very bright, vigorous plant, which is always in bloom at the very dawn of

* Drawn for THE GARDEN at Gravetye Manor by H. G. Moon. Lithographed and printed by J. L. Goffart.



THREE WINTER HEATHS

1 ERICA CODONODES 2 E MEDITERRANEA HYBRIDA 3 E CARNEA

spring after the hardest winters, and in mild winters like the past very often in showy flower.

It is needless to say more of the value of plants more precious perhaps than those of any country, hardy, easily increased, and useful in every garden.

THE WEEK'S WORK.

HARDY FRUIT.

NEW STRAWBERRY PLANTATIONS.—In districts affected by the drought, both old beds and young ones, too, will need considerable attention still for watering. The advocates of annual planting will not otherwise have found this season the best possible one for establishing their young stock. The older beds, on the other hand, if well attended to previously will have more enduring properties with the roots lower down, and hence both cooler and moister. The young plants even during such a season as the present would have been greatly benefited by a light mulching; it would, however, have to extend over all the ground, otherwise the birds would soon remove it. Planting rather deeper during drought will be found the safer plan, that is, drawing drills and planting in them. I shall not hesitate to make young plantations this year during October from pot plants, but not otherwise. We cannot possibly, one may fairly surmise, be now very far off from rain in sufficient quantity to benefit vegetation, after which these young plants will soon take root freely. Young plantations which are seen not to be progressing as they should do may have the cause attributed to lack of moisture. Keep the hoe at work amongst these, or a rake, so as to break the surface of the soil, and water them liberally. Those who have taken the pains to tread around their young plants when put out will now find a benefit therefrom, plants so treated being less liable to suffer from want of moisture. Older beds, although they will hold out longer, will also be likely to suffer, especially if the runners were not cleared off after fruiting, but where the mulching was left upon these beds, benefit will have been accorded them. In every case of Strawberry culture the advice given is to water liberally, so that the crowns for next season's fruiting may be fully developed, otherwise the future prospects will be but poor.

STRAWBERRIES IN POTS.—So far in my own case the progress of these has been variable. On the one hand, such varieties as *La Grosse Sucrée*, *Vicomtesse Hélicart de Thury*, *Keens' Seedling*, and *Latest of All* have each done remarkably well, making a sturdy growth with the foliage of that dark colour one likes to see. On the other hand, *Royal Sovereign* has not done so well; the foliage has been disposed to curl with occasional symptoms of mildew, which is stopped as soon as possible by dusting with sulphur. The treatment to each and all has been exactly the same, so it is either the season or some peculiarity in the variety which is the cause, I think. The crowns of the last-named, however, are plumping up well, so there need not be any real cause of anxiety for next spring. Let all pot Strawberries now have the maximum of light and air. Where the room was possibly limited as regards standing accommodation earlier in the season, an effort should now be made to re-arrange them at greater distances apart. A turn about with the ashes raked over will do no harm, rather otherwise. At the same time look to the drainage and remove both runners and weeds. Where the plants are thoroughly well established and are seen to dry out quickly an occasional dose of liquid manure will assist them, but do not use it other than quite clear, so as to prevent any settlement on the surface. Watch for worms at the same time and catch them if possible. When room is scarce, a line of these pot plants can often be stood around the garden paths or upon boards on the quarters.

LATE STRAWBERRIES IN THE OPEN AND IN POTS.—These have done very well this season. *Royal*

Sovereign has been in picking since the middle of August, and the beds still supply an occasional dish. *Vicomtesse H. de Thury* has not done so well from some cause. *St. Joseph* bids fair to be a decided acquisition. Plants of this *Strawberry*, which showed a good crop of flower-trusses and ripened their fruits with the first earlies, as *Royal Sovereign*, are now bearing an even greater profusion, the earlier ones ripening their fruits, the later ones coming into flower. Out of doors the flavour is now brisk and sub-acid; earlier in the season it was much sweeter. This can, of course, be easily accounted for late in the season. It is a most prolific *Strawberry* with the alpine character of freedom in bearing and continuity imparted into it, and will, no doubt, find favour in many gardens, especially where a prolonged succession of Strawberries is required. Plants of this kind in pots are now housed, whilst those of *Louis Gauthier* are being got into frames owing to want of room in the Strawberry houses. Both kinds are bearing good crops, and will be the means of extending the Strawberry season considerably in conjunction with the alpine varieties now in good bearing outside. These latter have up to the present had to be watered every week or two. This is done by means of the hose and a fine spray jet, by which means the water falls in the form of a gentle shower upon the plants. This watering whilst the plants are in a fruit-bearing condition neither affects the flavour of, nor causes any decay in the fruits. The seedling alpine raised last April are now quite fit to plant out into their fruiting quarters, having, with regular attention to watering, made excellent growth. This work will be done by the middle of the month, by which time I hope to have the ground at disposal. In preparing the ground for planting, pains should be taken not to leave it at all lumpy. It should be well broken to pieces during the process of digging or forking over as the case may be.

WATERING OUTSIDE.—This work is still being attended to most attention being given, as a matter of course, to trees still carrying their crops, but all need attention where the crops have been good. Where the watering has been continued through the drought the results are singularly manifest both in the colour of the foliage and in the size of the fruits. This applies to all kinds of fruit, but to Apples, Pears, and Cherries in particular. The fruit-buds for next season upon Cherries and Apples are already well plumped up, the former trees going steadily to rest with an entire absence of rank growth, the latter showing some signs of a secondary growth, which will be stopped again. This work of watering is an all-important matter upon light or well-drained—too well possibly—soils, and should be followed up until penetrating rains fall. The trees which show most signs of distress with me are those upon grass land where the trees are old, having been planted in the early fifties. Mere superficial watering will not suffice. Do the work thoroughly well and in the end it will take but little longer. The weather of the past few weeks has been conducive to the spread of red spider. Where this pest is noted, pursue the usual remedy of drenching the trees, using in bad cases some sulphur incorporated with the water.

WATERING INSIDE BORDERS.—The same remarks and advice apply with equal force here; in fact, more so when dealing with the first early Peaches and Nectarines, which, although the trees may now be casting their foliage, must not be allowed to get dry at the roots, as herein lies a fertile source of bud-dropping. It must not be inferred that because the leaves fall thus early it is altogether caused by natural conditions. It may have been brought about by want of moisture; if so, more is the pity as far as next season's crop is concerned. The advice given is to carefully examine the borders, and test them if need be as to their condition, not hesitating afterwards to water well if occasion requires it. Vines also are none the better for being kept too dry at the roots. To a certain extent in every case we should imitate Nature, for do we not have some

of our heavier falls of rain during the resting period? Of course, what has to be taken into consideration is the condition as regards make up of the borders. If the drainage be good, watering is perfectly safe. On the other hand, upon heavy, non-drained soils it must be looked into carefully. What has to be guarded against is the premature ripening or falling of the leaves before they have performed all of their functions and imparted to the now dormant buds some of their good properties. HORTUS.

KITCHEN GARDEN.

NECESSARY WORK.—Owing to the drought, weeds have not been troublesome, but with cooler days and, I trust, a genial rainfall there will be great activity, and the hoe will need to be kept going to keep down weeds, as later in the autumn it is a difficult matter to get rid of them owing to lack of sun to dry them up. Any arrears of seed-sowing should be undertaken at once, and, sown thinly, growth will be active owing to the warmth in the soil. I fear there will be gaps in the autumn sowings, as I find the earliest sown Cabbage plants have gone blind owing to the heat and drought. It is always well to have plenty of plants to fall back upon, as then the variety can mostly be relied upon, and if there is a good stock it saves time. It is not too late to sow Turnips for use in the spring. Sow thinly and give as open a position as possible. A few drills of Long Standing Spinach sown now will come in for use a month in advance of the spring sown, but it will need good culture and to be kept free from slugs. Carrots sown a few weeks back to draw through the winter in a young state should be thinned if too thick, but Carrots will do much closer now than in the summer. After thinning, which is best done in showery weather, give the plants some food in the way of a dressing of soot or a quick-acting fertiliser. Potatoes of most kinds should now be lifted. I fail to see the utility of leaving late kinds any longer in the soil, as after so much heat and drought they will grow out badly, as even before the change in the weather there was some evidence of disease, and by lifting this will be checked. We very often get much rain after a long spell of dry weather, and the lifting can be done better whilst the soil is dry. For seed there need be no haste in storing, as if the sets are greened so much the better, as they will keep sounder, the skin being hardened. For late Potatoes in quantity I would advise clamping, and with the soil in workable condition there is no need to expose the tubers, as they will be dry enough to place in bulk. Those showing the least disease should be placed in smaller heaps so that they may be often looked over or used up quickly. Ground as it goes out of cultivation should be levelled over for the rains to reach the lower portion, all decaying matter being burnt and the hoe occasionally run over the surface to keep it clean.

ENDIVE.—It will be well to plant out at this date a good breadth of Endive, as not only is it good for salad, but also as a vegetable if the Large-leaved Batavian is grown for that purpose. Up to this date in the southern parts of the country planting has been delayed owing to drought and heat, and though full late to set out for early winter supplies, the plants will soon make up lost time if placed in well-manured land and kept well supplied with moisture. The large Improved Green should also get a favourable position for early autumn supplies. This is harder than the Moss Curled, and being a firm hearting variety is useful. Those who have cold frames in which to winter Endive may with advantage plant the tender kinds in such, as in these protection from heavy rains and frost in the late autumn may be given. Last winter the Large-leaved Batavian stood the winter under a west wall. For the early spring supply it will be well to plant medium-sized sturdy seedlings, as should the winter be severe they can be lifted or covered with litter or Bracken in their growing quarters.

LETTUCE.—Seedlings for early autumn supplies are best left in their growing quarters if the supply is none too plentiful. The plants, if at all thick, may be thinned. The thinnings, if lifted carefully, will make a succession to the plants left. Owing to the heat and drought, I in a previous calendar advised sowing thinly in drills in order to avoid planting out, but now with cooler weather and more moisture the plants will continue to grow till the autumn, and though they will not make the large blanched heads so much desired, the smaller ones will be useful for salad. Much better results will follow planting if the seedlings are lifted with a ball. If well watered in they soon make a start. I have found these Lettuces, though small, are far more hardy than the larger ones with blanched hearts, these being the first to feel the effects of frost and soon decaying unless housed, whereas there is no hurry with smaller plants in a green state. It is useless to put out at this late period plants that have been crowded in seed beds. For spring supplies the cultivator in many cases relies on the seed sown in August, but this year, owing to bad germination, my plants sown towards the end of the month are very scarce. It may happen that the supply even now is none too large, and my advice is to sow at once in cold frames. It is too late to sow in the open with a certainty of success, so I advise sowing in frames, as the Lettuce in the spring is of great value, and plants sown now will turn in much sooner than those raised in heat early in the year. In winter at times mildew attacks the seedlings if kept too close, but dry wood ashes, with a little sulphur, soon check the disease.

CUCUMBERS.—A few weeks ago I noted the importance of a good house of Cucumbers for what may be termed the autumn supply. The plants then put into their fruiting quarters will now make good progress, and with cooler nights more warmth will be needed. I find it a saving to cover the glass at night from this date, as this saves hard firing, and the plants grown thus are stronger in consequence. Plants coming into fruit will now need a temperature of 70° at night and 20° higher by day, with sun-heat and in bright weather ample supplies of moisture. The fruits grown in a close, moist house are far superior in quality to those grown slowly in a lower temperature with more ventilation. With an increased temperature from fire-heat more moisture will be needed in the house, and to keep the plants free of thrips or spider I would advise placing a little liquid manure in the pans. This will assist in building up healthy foliage. Avoid overcropping at the start, and at all times encourage the formation of new wood, as upon the latter will depend the vitality of the plants. Feed freely when giving moisture. I prefer liquid manure. Bone-meal may be used to advantage when giving new surface-dressings, and soot also in small quantities to give the leaves colour. It is well to cut the fruits daily, and when nearly full grown they will keep fresh for days if placed in water in a cool place. I have noted the importance of obtaining new wood, but this will be weak if too many fruits are allowed on the plant at one time. It is well to encourage new surface-roots, and a little top-dressing given every fortnight is the best. The plants delight in a rich root-run. Avoid leaf-soil which is not good, as it causes a quick growth at the start, but is wanting when the roots make an increased demand. Winter fruiters will need to be placed in their pots or fruiting quarters. The compost for these may be fibrous loam, say one half or more, and a goodly portion of wood ashes, some broken charcoal, and spent Mushroom manure. My plants are now in 6-inch pots and kept near the glass to make them sturdy. I do not fruit these till December, relying on the autumn plants.

HERBS.—All kinds of herbs should now be tied up neatly and suspended where air can circulate freely, as if in a damp place the flavour is impaired. Sweet and Bush Basil, sown late for autumn and winter use, should now be cut and

dried. If Basil is needed in a green state through the winter months, a box of seed sown in frames now and in colder weather in warm houses will provide a supply. To keep it up, sowings should be made every three weeks, and later on care taken that the plants do not damp, as they do badly if given too much moisture. The summer Savory will now need cutting. Sage may be cut and dried, and Mint needed for forcing should be cut close to the soil—I mean this year's growth. It will then start earlier when placed indoors to force. Parsley sown for next spring's supply has had a hard time owing to drought. Thinning should not be longer delayed, but after thinning give moisture to settle the soil round the roots, and give a dressing of soot in showery weather. Earlier-sown plants will pay for food in the shape of soot or liquid manure, and for winter use, if cut over now, will make new growth. S. M.

FRUIT AND VEGETABLE CROPS.

SCOTLAND.

Tynninghame.—Crops of fruit and vegetables alike, notwithstanding the erratic nature of the weather, have turned out well. Apples, Apricots, and Plums are, of large fruits, better than Pears. All are of better quality than usual. The earlier sorts of Apricots and Plums at time of writing are ripe, and Codlin Apples are fit to use. Small fruits have been a very heavy crop, and generally of fine quality, the only exception having been Strawberries, which, though a heavy crop, have yielded smaller fruit than usual.

The chief vegetable crops, including Peas, Cauliflowers, Potatoes, Lettuces, Onions, Broccoli, have been better than usual, and the crops that have yet to finish, such, for instance, as Celery, late Peas and Cauliflowers, Potatoes, Leeks, and Brussels Sprouts, are all looking healthy and making a rapid growth. On the whole 1898 is turning out a good year.—R. P. BROTHERTON.

Ladykirk, Berwick.—Apricots and Peaches are above average here; Plums are deficient on walls, both on east and west aspects, but standards are heavily laden; Pears are very scarce all over; Apples are good, also Cherries; small fruits very abundant and good.

Taking into consideration the long drought we have had here, the vegetable crops have done very well. Early Potatoes were small in size owing to ripening too rapidly.—J. GEMMELL.

Glamis Castle, Forfar.—Fruit crops are under the average with me, and owing to the protracted drought the bushes and trees are suffering very much from the attacks of aphids, especially on light soils. The first pickings of Strawberries were good, being large and of fine quality, but later pickings have been very small. Gooseberries are a very good crop and of fine quality. Currants are only fair, and Cherries an average crop. Plums are a poor crop, and Pears a failure altogether. Apples are only a casual crop, some young trees of Lord Grosvenor, Duchess of Oldenburg, and Keswick Codlin are carrying heavy crops of fine fruit, while varieties such as Ecklinville Seedling, Northern Dumpling, and Beauty of Moray, usually so fine, are this season a complete failure.

Vegetables are good, except Carrots, these having gone off with the maggot. Early Potatoes are a good crop, of fine quality, but the tubers are small.—THOS. WILSON.

The Gardens, The Glen, N.B.—In this neighbourhood Apples are a good crop on walls; on standards thin. Apricots are a failure; Cherries abundant; Plums a failure; Strawberries a grand crop and of very good quality. Gooseberries, Currants and Raspberries are over average.—W. MCINTYRE.

Balcarras, Fife.—Apples are a fair crop. Lord Suffield, Keswick Codlin, Northern Dumpling, Bramley's Seedling, James Welsh, East Lothian Seedling, James Grieve and Worcester

Pearmain are very good. Pears and Plums are under average. Early Cherries are plentiful, but very small; Morellos very good. Peaches and Apricots are under average and small. Small fruits are very good. Strawberries have been good. Of Strawberries, Royal Sovereign, Garibaldi, Duke of Edinburgh and Sir Joseph Paxton are the best. Of new varieties, Leader and Veitch's Perfection are good. The month of May was very cold and frosty and all crops have suffered from the long drought.—E. TATE.

Brechin Castle, Forfar.—With the exception of Pears the fruit crop in the gardens here is very fair. Apples are an average crop; Plums rather under the average; small fruits are abundant. Strawberries are a heavy crop and have been gathered in fine condition. Royal Sovereign has been very fine, fruit large and flavour good. Garibaldi and Elton Pine are the sorts I mostly depend on. Latest of All is a great cropper, with fruit of enormous size, but here at least the flavour is very deficient.

Although we have had a very dry summer, vegetables are doing fairly well. Early Cauliflower has not done very well, but with rain now the autumn supply promises to be good. Peas are a good crop, haulm shorter than usual. Onions and Carrots have a healthy appearance, and French Beans look well. Early Potatoes are a fair crop, of fine quality, but of medium size, and later sorts are good. As yet there is no appearance of disease.—W. McDOWALL.

Eglinton Castle, Irvine.—The small fruit crops in this garden are very good both in quality and quantity. Strawberries have been extra fine, also Black Currants. Morello Cherries and Victoria Plums on walls are also very heavy crops. Other varieties of Cherries and Plums are not so heavy, but of good quality. Apples are a very thin crop, and Pears are quite a failure. Peaches outdoors are hardly worth the trouble; still, we have a few on some trees.—W. PRIEST.

Erskine.—Apples are better than last year, and a good crop in this neighbourhood. Pears are a poor crop here. Plums are good on standards, but poor on walls; in some places near here a failure; Cherries an average crop; Peaches under; Apricots under. The small fruits are plentiful and good; Strawberries over an average crop and of good size. Taking the crops all over we have a record year at Erskine.—JAMES M. REID.

Abercainey, Crieff.—Apples are under the average; Pears much under; Plums average on walls, very poor crops on standards, having suffered by frost just after they were set on May 18. Apricots and Peaches are over the average; Cherries over the average. Small fruits are plentiful.

Vegetable crops have been good up to the present, but now stand greatly in need of rain. Peas have done extra well this season, but were soon over owing to the dryness of the ground.—J. C. BROWN.

Lennox Castle, Lennoxton.—The fruit crops in the gardens here and neighbourhood are generally good. Apples, Pears, and Plums are a fair crop. May Duke and Morello Cherries are very good. Gooseberries, Raspberries, Black, White, and Red Currants are extra good; Strawberries fair.

Vegetables with me are all doing well with the exception of Carrots and Onions, which are suffering from attacks of the maggot, a general complaint in this neighbourhood.—J. TINSLEY.

Blackadder, Berwick.—The fruit crop of 1898 is in this district a good one. With the exception of Pears and Plums, all sorts are above average and of good size and quality. Apples, from the amount of blossom, promised to be equal to the crop of 1896, but I suppose, owing to cold, cutting winds and slight frosts, the blossoms of some varieties were destroyed, which would account for the irregular crop. Some trees are actually breaking down from the weight of fruit, while others have only a few diseased-looking fruits, and the foliage has the appearance of having

passed through fire. Especially is this the case with healthy, free-bearing sorts, such as Manks and Keswick Codlins, Ecklinville Seedling, &c. This is the case with at least the first-named sort at three different places where I have seen it, miles apart. Warner's King, Stirling Castle, and other well-known sorts are, on the other hand, well furnished with fine healthy foliage and fruit. Victoria Plums are a very heavy crop; Green Gages and others below average; Pears much below average. Cherries have been very heavy and of large size. The same may be said of all small fruits. Strawberries, where watering was not persisted in, were unable to perfect more than two-thirds of their crop, but very fine fruits were got from the first gathering.

Vegetables have done fairly well, but in many cases are undersized. Carrots are, I believe, a failure in most places. Other root crops, such as Beet, Parsnips, and Turnips, were very slow to grow in the early season, but latterly have made good progress. The same may be said of the Brassica family. Dwarf and Broad Beans have done very well, the latter, perhaps, not quite so prolific as usual. Peas are a good deal mildewed and go quickly to maturity. Potatoes of the Ashleaf type are of large size and more prolific than I have seen here for several years; no disease has as yet appeared and the quality is all that can be desired.—J. IRONSIDE.

Dalmeny Park, Midlothian.—Everything promised abundance last April, but May and June turned the promise almost upside-down, Apples and Pears especially; but with the fine weather we have had these last four weeks I expect quality to make up for quantity. Apricots good, had to be severely thinned; Apples a fair average crop, Irish Peach, Duchess of Oldenburg, and Stirling Castle heavy crops; Peaches and Nectarines heavy under glass, average on walls; Cherries (dessert) good, Morello (north aspect) very poor; Pears almost blank, except Jargonelle and Beurré Diel, the latter on south aspect, former west aspect; Plums a good crop on east and south aspects; Currants, Black and Red, heavy crops; Gooseberries Hedgehog, Warrington, and Whitesmith very good, Sulphur very poor; Strawberries very good, especially Elton Pine.

Vegetables, all sorts, have done very well these last four weeks.—JOHN MOYES.

Galloway House, Garliestown, Wigtownshire.—The fruit crops in this district are more variable than usual. In some gardens very good crops are to be seen, while in others the fruit is very scarce, especially Apples and Plums, which appear to have suffered most in places according as the successive cold waves in early spring caught the bloom at a critical time. In these gardens the Apple crop is a very fair one; some varieties are heavily cropped and most have a good sprinkling of fruit, which promises to finish off very satisfactorily both in size and colour. The best are Mr. Gladstone, Early Harvest, Worcester Pearmain, Thorle Pippin, James Grieve, King of the Pippins, Cox's Orange Pippin, and of cooking sorts, Warner's King, Bramley's Seedling, Lane's Prince Albert, Lord Grosvenor, Wellington, Duchess of Oldenburg, Galloway Pippin and Loddington Seedling. Pears are very good, but later varieties will have smaller fruit than usual. Jargonelle, Marie Louise, Williams' Bon Chrétien, Princess, Jersey Gratioli, Beurré d'Amanlis and Louise Bonne of Jersey are the best. Plums are turning out much better than was expected a short time ago; the recent heavy rains have cleaned the foliage and given such an impetus to the fruit that quite good crops will now be secured. Victoria and Belle de Septembre are mostly grown here in the open, and both are well cropped. Against walls, Early Rivers, Czar, Kirke's, Denniston's Superb, Lawson's Golden Gage, Jefferson's, Pond's Seedling and Goliath are also very good. Peaches and Nectarines are very light crops, several of the trees being fruitless. The bloom on these was plentiful in its season and the fruit set well, but the cold winds later on caused the foliage to blister to

such an extent that most of it had to be removed, in consequence of which most of the fruit fell from the trees. Dessert Cherries were fair average crops, which ripened up well and free from cracking. Morellos are especially good, being heavy crops and fine fruit. Figs of the Brown Turkey type are very abundant, but being rather later than usual, it will depend very much upon the weather as to their ripening. Castle Kennedy is much earlier than the former, and although not such a sure fruiter, it always ripens its fruit, and this year this is very fine. Strawberries in many places were below the average; it was the same here, as, with the exception of early varieties in favoured positions, they could not be considered a full crop. The light crop was, however, to a great extent compensated for by the dry weather that prevailed when the fruit was ripening, which enabled the crop to be gathered without material loss either from rain or insect pests. Gooseberries were abundant here, and so far as the crop goes were generally good, but in many instances the caterpillar did much damage to the foliage, and so injured the fruit. Black Currants were slightly below the average; the dry weather set in at a critical time for this fruit, and aphids and red spider for a time were rampant. So far I have never discovered a trace of the Black Currant mite in this county, although in some parts of Scotland it has rendered the cultivation of this otherwise profitable fruit a very disappointing one. Red and White Currants were very good, and upon north walls some very fine fruit will continue good for some time. Damsons are not often a success in this part, and this year they are worse than usual, being almost fruitless.

Vegetables of all kinds have done well. Early Potatoes were rather late, but the quantity and quality of the crop were good. The same remark applies to second earlies, but where not dug these are now showing signs of disease in their foliage, though as yet very few affected tubers have been found. Late and field crops are looking well; these are of more diverse varieties than was the case a few years ago, when the renowned Champion held the sway. This, owing to the deterioration of the size and symmetry of the tubers rather than quality, is now being superseded by Maincrop, Magnum Bonum, Bruce, Saxon and others. Early Peas bore a heavy crop; later ones are badly affected with mildew. Onions, Beans, Cauliflowers and all kinds of winter crops have revelled in the heat and moisture of the past month, and plentiful supplies for the autumn and winter months are now assured.—JAMES DAY.

IRELAND.

Belfast Castle.—The fruit crop in this locality is anything but an all-round good one; Apples, Pears and Plums very thin. The trees blossomed splendidly and expectations of an abundant crop ran high, but wet and stormy weather, with hail, destroyed the crop. Bush fruits are fair, also Strawberries, but owing to drought the season was short.

Vegetables are abundant and of good quality.—W. TOTTY.

Charleville Forest Gardens, Tullamore, King's Co.—The small fruit has been very abundant here this season. Strawberries, Raspberries, Currants and Gooseberries were simply laden; the Gooseberries I never saw finer, both in size and quantity. Cherries, both sweet and Morello, have been light; Apricots, too, are few. Plums are an average crop. Pears on walls are fair, but standards have very few. Some sorts of Apples, viz., Ecklinville, Peasgood's, Greening's Pippin, King of Pippins, Cox's Orange and Dutch Mignonne, are the only ones carrying a good crop.

The Potato crop all round has suffered very much from disease.—R. MCKENNA.

Tillyra Castle, Ardahan, Co. Galway.—Strawberries were fine, especially Royal Sovereign and Noble. Gooseberries, Currants (Red, White and Black), and Raspberries were very heavy; quite the reverse of last year, when they were light. Pears are scarce, and the crop of Apples

is very light, next to nothing, owing to spring frosts. With regard to Plums, the Victoria is bearing well, none on the other sorts. Peaches outside are fair and Cherries are heavy crops.

Vegetables with me were very good, and I never had finer crops of Potatoes. Up to the present I have not found a diseased tuber. They look well in the country round, though the mode of treatment is not the best.—W. O'ROURKE.

Tubberdaly, Edenderry, King's Co.—The fruit crops are up to the average. Apples are good; Pears average; Plums under average; Cherries good; Peaches and Nectarines good; Apricots bad; small fruits good; Strawberries average.

Vegetables are good all round. Beans, particularly runners, are late owing to the cold weather experienced in May and first week in June.—D. McKINNON.

Woodstock, Kilkenny.—The Apple crop in these gardens and neighbourhood is a good average one, trees healthy and fruit promising in quality. Pears, Plums, and Cherries are in general a light crop. Strawberries were a full average crop and excellent in quality; other small fruits abundant and good.

Vegetable crops are also good with me this season, but owing to the mild, moist winter there was more than the usual number of garden pests. Potatoes in both field and garden are a prolific crop and extra good in quality. There is very little disease so far.—WILLIAM GRAY.

Kylemore Castle, Co. Galway.—Apples and Pears are a good average crop; Plums a good crop; Apricots much under the average. Gooseberries, Currants, and Raspberries are a full crop, but Strawberries are only about half a crop.

Vegetables of all kinds are all that could be desired. Potatoes are a fine crop. The much-dreaded blight is much in evidence in low-lying parts, and will seriously affect the later varieties. Where spraying has been done blight has made but little progress.—WILLIAM COMFORT.

Birr Castle, Parsonstown.—The fruit crops in this neighbourhood are indifferent. Apples are a very thin crop; Pears are also a light crop. Plums are fair. Some sorts, such as Victoria, Pond's Seedling, and Early Prolific, are good. Morello Cherries are a good crop. Peaches and Nectarines on open walls are an average crop on some trees. Early Strawberries were a very poor crop, but later sorts were very good. Raspberries are very abundant and fine; Gooseberries and Currants are good average crops; Nuts are also very fair. All sorts of fruit trees blossomed very abundantly, but owing to the late spring frosts and cutting N.E. winds which were so prevalent during the early months of the year the fruit failed to set well.

The Potato crop bids fair to be the best known in this locality for some years past. The tubers are plentiful and good, and so far free from disease.—T. J. HART.

Carton, Maynooth, Co. Kildare.—The fruit crops in the gardens here and neighbourhood are a good average. Apples Irish Peach, Blenheim Orange, King of Pippins, Mère de Ménage, Stirling Castle, Golden Spire, Tower of Glamis, and Keswick Codlin are heavily laden; other varieties a fair crop. Pears Williams' Bon Chrétien, Beurré Bosc, Pitmaston Duchess, Louise Bonne of Jersey, and Glou Morceau are good crops. Cherries of sorts are very good. Damsons are a heavy crop on old trees, but Strawberries are under average. Currants, Red, White, and Black, and Gooseberries are abundant; Raspberries plentiful, but small; Filberts average.

Vegetables are very good. Potatoes never looked better in garden and field.—A. BLACK.

Fota, Cork.—The fruit crops, on the whole, are about an average. Small fruits are heavy crops. The Strawberry season was very short in consequence of the dry weather and great heat. Apples are a fair crop; dessert Apples scarce. Here Cox's Orange Pippin and Sturmer Pippin, which always bear well and on which I rely for the principal dessert Apples, are quite a

failure this year; Kerry Pippin and others are quite as scarce. There are fair crops on the following kinds: Warner's King, Lady Henniker, Loddington Seedling, Lord Grosvenor, Domino, Gascoigne's Seedling, Grenadier, Lane's Prince Albert, Bramley's Seedling, and Small's Admirable. Pears are a half crop, but on light soils very small and deformed in consequence of the summer drought. Duchesse d'Angoulême, Beurré Hardy, Glou Morceau, Beurré Superfin, Autumn Bergamot, and Marie Louise are the best. Peaches are good and of fine colour where watered in dry weather. Morello Cherries are the heaviest crop for many years. There was a good promise for heavy crops of Plums in early spring. January and February were very warm, but the following two months were very cold, which checked the sap and destroyed the blossom. There are fair crops on walls, but none on pyramids.—W. OSBORNE.

SUPPLEMENTARY.

Coolhurst, Horsham, Sussex.—Fruit crops generally are not what they were expected to be in the early part of the season. No doubt there are exceptions according to soil and situation. Every kind of fruit tree flowered in such abundance that the idea formed then was that crops would be unusually heavy. Strawberries have been highly satisfactory, the fruit being large, finely coloured and abundantly produced on Sir Joseph Paxton, Vicomtesse Héricart de Thury, President, and Royal Sovereign. These varieties under thorough cultivation of the soil never fail to crop well under all conditions of weather. After growing many kinds together for some years, close observation of the habits of the plants in growth and fruiting qualities has led to mostly all being discarded except the four named above, and the poorest flavoured of these is Royal Sovereign, which being light in colour, too, is never likely to be a popular dessert Strawberry in private establishments. If I were limited to one Strawberry, Vicomtesse Héricart de Thury would be my choice. The berries are in all respects large and of fine flavour from the first two pullings, and then the third is of an excellent size for preserving. No other Strawberry that I know parts so easily from the husk, so that there is no bruising of the berries, and consequently all the juice is retained. In its growth it is most robust and free. It stands drought better than any other, so that in every sense it is pre-eminently in the front rank. Its suitability for forcing is so well known, that no remark in its favour in that respect is necessary. The other three named are equally suitable for forcing, only Royal Sovereign does not travel well, being softer than the others. Sir Joseph Paxton is the finest dessert Strawberry in cultivation when grown in highly cultivated land made at least 2 feet deep and well enriched to ensure fine healthy plants that will produce fruit of the finest form and colour. Empress of India is an excellent dessert Strawberry, and is a shade later than the preceding kind. It is an excellent grower and stands drought well. Black and Red Currants have been excellent crops of fine fruit. Raspberries, too, have been good, but these all vary according to how they are cultivated. They all need deep soil and good surface mulchings to retain the winter's moisture, and if they all can be grown on cool north borders, so much the better. Gooseberries have been very plentiful and of fine quality, the trees all being healthy and quite free from caterpillars. Since I have adopted the plan of going over all the trees in the early part of the season with the engine and soapsuds, I have had no trouble from these insects. The same course was adopted with the Currant trees, with equally good results. Morello Cherries were a fair crop. Plums are poor; only Pond's Seedling, Jefferson's, Belgian Purple, and Coe's Golden Drop are the varieties that are bearing anything like a crop. Pears on the whole are thin, too, there being only good crops of Williams' Bon Chrétien, Beurré Superfin, Souvenir du Congrès, Louise Bonne of Jersey, Beurré Hardy, Conseiller

de la Cour, and a few others. Apples here are, on the whole, cropping well, particularly Claygate, Court Pendu Plat, Cox's Orange Pippin, Dumelow's Seedling, Grange's Pearmain, King of the Pippins, Lady Sudeley, Lane's Prince Albert, Lord Suffield, Mannington Pearmain, Mother (American), Peasgood's Nonsuch, Potts' Seedling, Ribston Pippin, Rosemary Russet, The Queen, Blenheim Orange, and several others in the orchard that are unnamed, possibly of local origin. All flowered magnificently, and the inference was that all would have borne alike. In the surrounding district Apples vary very much. Filberts are good; Figs fair; Mulberries plentiful and full-sized; Walnuts very thin.

Vegetables have had rather a trying season, May and June being cold months, with almost perpetual north-east winds, that are detrimental to vegetation in a young state, so that growth was slow and backward, and since the middle of July there have been for the most part excessive heat and consequent severe drought, so that vegetables on thin land have suffered considerably in their growth, and if one thing more than another stands out prominently in that respect it is Cauliflowers, which unquestionably are the most thirsty things grown. Early spring Cabbages were good, and now Rosette Coleworts; Brussels Sprouts are full-sized in growth and very promising for a fine yield of sprouts. Onions are excellent, there being little mildew and no maggots; Carrots are not so good as could be desired, the severe



Rhodothamnus Chamæcistus. Engraved for THE GARDEN from a photograph of a plant in the Royal Gardens, Kew, by Mr. J. Gregory, Canterbury Road, Croydon.

drought being against them; Runner and French Beans are very plentiful; Peas on the whole are good for the season. Potatoes, as far as lifted, have been excellent in quality and very abundant; Early Puritan, Beauty of Hebron, Snowball, Sutton's Seedling, and many others grown here are so close in point of quality, form, and cropping that there really is little more than name to distinguish the one from the other. I always grow Potatoes on ground that was manured well the previous year, only at planting time giving the ground a good dressing of burned ashes. That is enough to ensure sound, dry, disease-resisting tubers.—A. KEMP.

Stoke Bruerne Park, Towcester.—Fruit has this year been very satisfactory, taking into account the short time the trees have been planted (this being their third summer). Apples are plentiful and had to be thinned on some trees. Such sorts as Emperor Alexander, Bismarck, Queen, Bramley's Seedling and Lane's Prince Albert are carrying heavy crops, so are Cox's Orange, Ribston Pippin and King of the Pippins. The best early sort with me is Beauty of Bath; Irish Peach also does well. Mr. Gladstone has a heavy crop, but I do not think much of it, as it is too soft and mealy. Pears are a fair crop. Strawberries have been excellent, Royal Sovereign

being the favourite. I tried Monarch and Leader, but I would not advise anyone to plant them. Most of the plants of Monarch were fruitless. The fruit is very good for size and colour, but deficient in flavour. Leader had more fruit than Monarch, and taken altogether did better, but nothing to be compared to Royal Sovereign. Raspberries, Gooseberries and Currants (Red, White and Black) carried heavy crops; Morello Cherries are also cropping well. Plums, Peaches, Apricots and Nectarines are very scarce.

Vegetables with me this year have been remarkably good, although there was very cold weather during May and early in June. Potatoes have been very good, Sutton's Ninety-fold doing well. Harbinger was a heavy crop, but Ring-leader was preferred at table. It is not such a heavy cropper with me. Later kinds looked well until recently, when disease appeared. Cauliflowers have never been better, Magnum Bonum and Autumn Mammoth producing fine heads. Onions are quite up to their usual standard; winter ones were a grand crop, the best variety with me being Giant Rocca. Those sown under glass in January and planted out in April are very good, and I find that if these plants are put in with a dibber about 6 inches from plant to plant and about 1 foot from row to row, I can get a heavier crop than by sowing in drills in the usual way. Of course, if larger bulbs are desired, you must allow more room for the plants and manure the ground well. Cabbage, Broad Beans, early Carrots, summer Beet, Turnips and early Celery have done well. Runner and French Beans were long in coming in, but are now carrying heavy crops. Broccoli and Kale are healthy, and are now growing fast.—J. DYMCK.

TREES AND SHRUBS.

RHODOTHAMNUS CHAMÆCISTUS AT KEW.

THE engraving that appears on this page is a charming representation of this beautiful alpine shrub in flower in the rockery at Kew last spring. The species is one better known among gardeners by repute perhaps than by actual experience, for it is one of the most uncommon of ericaceous plants in gardens and one of the most difficult to establish. It was originally introduced to this country in 1786, in which year Messrs. Loddiges, the well-known nurserymen of Hackney, had seeds sent to them from the mountains of Carniola, in Austria. It is by no means rare in a wild state, being found in the Tyrol (often in large patches) as well as in Carniola. Loddiges raised and flowered it from seed, but a similar success appears to have been very seldom attained since. As I have seen it, it has been imported in the shape of living plants, which consist as a rule of long, straggling stems not well furnished with either roots or foliage. It was in this condition that the plant now figured reached Kew five or six years ago, but, more fortunate than several others, it managed to survive, and, once established, it has increased in size and flowered in greater beauty every year since. In cultivating this plant, the factors most important to success appear to be full exposure of the foliage to sunlight, combined with cool, uniformly moist conditions at the root. This has been secured at Kew by planting it in a sunny position in a crevice or small pocket between the stones, which keep the roots permanently moist and protected from the hot sun that the leaves enjoy. The compost should consist mainly of good loam, to which a small proportion of peat may be added, and which should be free from calcareous matter.

The genus *Rhodothamnus* is comprised in this little plant, which is a dwarf evergreen

shrub of almost procumbent habit, and keeps as a rule below 1 foot in height. Its leaves are ovate, from a quarter of an inch to half an inch long, thickly clustered on the twigs, and have the margins set with slender hairs. It flowers towards the end of April and the beginning of May, and produces its blossoms in clusters at the ends of the shoots. From two to four flowers are in the cluster, and each is about $1\frac{1}{4}$ inches in diameter, the free portions of the petals fully expanded, as the engraving shows. The colour is a pale clear pink with a ring of a deeper shade in the centre. A feature of the flower also is the long stamens.

This plant was originally called *Rhododendron Chamæcistus* by Linneus, a name that is often applied to it still. It is, however, more nearly related to the *Ledums* and *Kalmias* than the *Rhododendrons*. W. J. B.

The claret-coloured Vine is not planted nearly so much as it deserves. At one end of the mansion at Gunton Park, that was burnt some few years since, a plant of this Vine is now 20 feet high. The foliage is very handsome, with that purple colour which renders it so attractive, and which will deepen as the autumn advances. The leaves do not fall nearly so quickly as in the case of *Vitis inconstans*, for instance, and for this reason it is all the more desirable.—E. M.

Tecoma radicans.—At this time of year few things are more beautiful than a large plant of this fine climber against a south wall or trellis. The growth is very free, and the fine fulvous red blossoms show up grandly against the deep green foliage and stems. To grow the plant and flower it at its best, a sheltered place is necessary, yet a place where plenty of light reaches the plant from every side, this ensuring a thorough ripening of the wood. Being a very vigorous grower, the border for it should be rich and well drained, and the surface must be mulched if any fear of drought exists. But where it has the run of a border of any extent the roots are almost sure to ramble about until they find something to suit them. The plants then virtually look after themselves. Pruning consists in cutting out as much as is necessary every season of the wood that has flowered, and the less of this the better where there is room for it to extend. A fine plant will produce an immense amount of bloom when thus left alone, each of the shoots being terminated by one of the large panicles of flower. Its propagation is easy, the present being a good time to strike cuttings of the flowerless shoots where only about half ripened. It may also be grown from layers and root cuttings.

Sophora japonica.—During this hot and dry season, when, unless in especially favoured districts, nearly all our deciduous trees present a more or less sere and withered appearance, this *Sophora* still retains its deep rich green hue, which is at once sufficient to direct attention to it, and when in addition it is laden with numerous racemes of cream-coloured blossoms, it is then particularly noticeable, standing out as it does as the last of our flowering trees. This *Sophora* forms, as a rule, a dense, round-headed specimen, that when in an open situation frequently branches at but a little height from the ground. While the rich tint of the foliage is so noticeable when in leaf, it is also conspicuous during the winter, as the smooth bark of the young shoots is of a deep green colour, which renders it very distinct. In its young state this *Sophora* makes by far the greatest headway in a good free soil, as the roots are more deeply descending than those of many other subjects. This very circumstance enables it to resist drought well even in dry, gravelly soils, as the roots penetrate to a considerable depth in search of moisture. The same feature can be observed in many other leguminous trees and shrubs, which may be seen flourishing in situations where more surface-rooting subjects suffer greatly. The *Sophora* was intro-

duced into this country in 1763, and, as implied by the specific name of *japonica*, it was always regarded as a native of Japan till Professor Sargent visited that country in the autumn of 1892, and gave us the result of his observations in "The Forest Flora of Japan." He says that the *Sophora* does not occur in that country in a wild state, but is one of the many subjects brought into the empire from China and Corea, and cultivated to a greater or less extent by the Japanese. Apart from individual differences, there are a couple of well-marked varieties, which must, however, be regarded more in the light of curiosities than of high ornamental value. They are *variegata* (a poor thing) and *pendula*, one of the most pronounced of our weeping trees. Apart from its uncommon appearance when grafted standard high, it is very curious when creeping along the ground.—H. P.

DEUTZIA CORYMBIFLORA.

WE owe the introduction of this *Deutzia* into France to M. Maurice de Vilmorin, who received in 1895 seed from Abbé Farges, of the Foreign Missions. These seeds came from Western Se-Tchuen (China). They germinated freely and some of the plants planted out produced flower-buds in November the same year. They flowered in April, 1896, with M. Boucher in Paris, to whom they were entrusted, who the following year, on April 7, 1897, was able to present a plant in flower under name *Deutzia corymbosa* to the National Horticultural Society of France. After pointing out the origin of the new shrub, M. de Vilmorin set forth his reasons for the adoption of the specific name *corymbosa* :—

"The drawing given in the 'Laubholz-kunde' of Dippel for *Deutzia corymbosa* (Royle) (after Robert Brown) appeared applicable to this plant. The 'Index Kewensis' identified *D. corymbosa* (R. Brown) with *D. parviflora* (Bunge). M. Franchet, of the Muséum, also ascribed to *D. parviflora* (Bunge) the flower branches which were submitted to him by M. de Vilmorin. M. Maurice de Vilmorin had remarked a decided difference in precocity at Barres, in 1896, between the two plants, not to speak of several characteristics, and M. Lemoine Père told him without any hesitation that the plants of which he showed them dried specimens were not *D. parviflora*. The handbook of the arboretum at Kew, later by five or six years than the 'Index Kewensis,' does not give the two species *D. parviflora* (Bunge) and *D. corymbosa* (R. Brown) as synonymous. The probability, therefore, is that the differences between them are sufficient to proclaim them as distinct species, and that M. Boucher's plant is *D. corymbosa* (R. Brown). On referring to the description of *D. corymbosa* (R. Brown) it is seen that this plant has, like *D. parviflora* (Bunge), round petals, and that it is distinguished by rather larger flowers and by the petals being smooth, whilst those of *D. parviflora* (Bunge) are hairy. To us these characteristics are at most sufficient to make of *D. corymbosa* (R. Brown) a simple variety of *D. parviflora* (Bunge). There is nothing, on the other hand, which permits of identifying it with our plant. It is also impossible to identify it with *D. corymbosa* (Lindley), which is none other than *D. staminea* (R. Brown), a native of the Himalayas and East Indies, with colourless leaf, very late bloom, and insufficient hardiness for our climate. Still less is it a question of identifying it with *D. corymbosa* (Hort.), which is simply a form of *Philadelphus inodorus* (L.).

To conclude, the name *corymbosa*, whether of Robert Brown, Lindley, or the horticulturists, is inapplicable to our plant. No other

species described until our day can be identified with it. The three most allied to it are : (1) *D. staminea* (R. Brown).—We have seen how this is distinct from it, and, moreover, a single glance is sufficient to take in the differences between them. (2) *D. Fargesii* (Franchet), of Eastern Se-Tchuen, which differs from ours by the smallness of its stature, thick leaves smooth on both sides, and blunt petals. (3) *D. setchuensis* (Franchet), of Eastern Se-Tchuen.—M. Franchet, after finding points of resemblance between *D. corymbosa* and *D. parviflora* (Bunge), ended by identifying it with *D. setchuensis* (Franchet). But the description given by himself to this last species does not allow of any such identification; in fact he attributes to it a small leaf and a paucity of inflorescence, petals double the length of the stamens, furnished extensively with hairs and starred with brown centres, characteristics none of which belong to our plant. We consider ourselves authorised to give it the name which appears at the head of this article, *D. corymbiflora*, a specific term not yet appropriated in the nomenclature of the *Deutzia*, whilst sufficiently recalling the denomination under which the plant was first presented to the public.

The appearance of the flowers is that of *Solanum jasminoides*, only smaller. Their number is so great, that they cover the shrub like a dome of snow for more than a month. The normal blooming begins in the second fortnight of June, when the flowers of *D. crenata* and its numerous varieties are about to leave us, and, thanks to the wealth of buds opening in succession, the bloom at the end of July is as abundant and as fresh as at the beginning. It happens often indeed that the year's stems terminate in September with new inflorescences, without prejudice to the bloom of the succeeding year. Since its introduction this shrub has stood perfectly in the open the rigours of our winters. It is, therefore, a novelty to be recommended, and which produces the finest effect, whether isolated in the centre of lawns or arranged in small groups on the borders of shrubberies.—E. LEMOINE, in *Revue Horticole*.

VERONICAS.

IN the milder districts of England the *Veronics* form a very beautiful class of outdoor shrubs, whose value is enhanced by the fact that their flowering season extends well on into the autumn, at which time plants of this class in bloom are by no means numerous. They are, as a rule, frequently cut about in the London district, and to see them at their best one must go to the south or west of England, where, especially in the neighbourhood of the sea, they are often particularly fine. Apart from their value as outdoor shrubs, they are also very useful for the decoration of the greenhouse or conservatory during the autumn and winter months, either grown altogether in pots, or planted out during the summer and lifted towards the end of August. One feature that stands them in good stead for this latter mode of treatment is the fact that they form quite a dense mass of fibrous roots and very quickly recover from the check of removal, continuing to flower as if they had been allowed to remain undisturbed. Of course the plants must be kept rather close and shaded with occasional syringing till the roots are again active, which will not take many days. Even comparatively small plants of *Veronics*, if planted out as soon as sharp frosts are over, will by autumn form neat bushes bristling with flowers, whose beauty (if allowed to remain undisturbed) will be limited only by severe weather. This refers, of course, to districts where they are not absolutely hardy, and not to localities where they pass unscathed through the winter. They all strike

root readily from cuttings and grow away freely afterwards. Some of the varieties are brought into Covent Garden Market in large quantities, and form very familiar objects on the costermongers' barrows in the streets of London, while they may be seen struggling for existence on many a window-sill and balcony. One variety—*V. Andersoni variegata*—whose shining leaves are freely variegated with white, has long been known, but is not so popular as formerly, when rows of one subject were so generally seen. A smaller-growing compact variety with variegated leaves—*Silver Star*—received an award of merit last autumn. Another variety honoured the same as the preceding is *La Seduisante*, whose long spikes of rich reddish purple blossoms are very showy. *Purple King*, a compact form with a profusion of purple flowers, was raised and distributed by Messrs. Veitch a few years ago, and has since become very popular. There is quite a long list of garden varieties of these shrubby Veronics, most of which are of French origin. One is occasionally asked for the best white-flowered form belonging to this section, and of those I have met with the first place would be given to *Reine des Blanches*, which was distributed by M. Hoste in 1891. Besides this last-named gentleman, another raiser of these Veronics is M. Simon Délaux, of St. Martin du Touch, so well known from his connection with the *Chrysanthemum*. The above notes on the Veronics refer of course to the free-growing varieties—hybrids of *V. Andersoni*, *V. salicifolia*, *V. decussata*, and others of this class, and not to the curious little shrubby forms, the members of which are more suited for rockwork than for other purposes. T.

NOTES & QUESTIONS.—TREES & SHRUBS.

Ivy and *Ceanothus azureus* growing together against a south wall I lately saw, and was much struck with the combination. The close-growing Ivy made a capital background for the dark blue flowers of this *Ceanothus*.—E. M.

The white Elderberry. While the black variety of Elderberry is found growing in almost every part of the country, how seldom is the white variety met with. The only two places that I know of its growing are Highlands Park, (Helmsford, and Thorndon Hall, Brentwood, both in Essex. It is very vigorous in growth and bears freely, the berries being rather larger than those of the dark variety. It makes excellent wine. Even where the fruit is not put to any use the tree is worth growing for ornament.—J. C.

A GARDEN STREAMLET.

WATER in the garden is valuable from the artistic point of view, since it permits the grouping around its verge of moisture-loving plants, many of them of noble form, and others the embodiment of grace, that in drier positions would fail to attain their full proportions, while their outlines are nowhere shown off to such advantage as when rising from the water's edge. Many beautiful pictures are formed by lakelets fringed with the giant leaves of the Gunneras, with the tall, pennoned shafts of Bamboos or Arundos, and with the whiteness of the Arum's spathes, while on the placid surface the Water Lilies float; but while such a scene must ever hold a charm for the lover of tranquil, natural beauty, the running stream, breaking here and there into falls, eddying swiftly round a bend, or lying seemingly asleep in the shady pool, where on the further side, beneath overhanging boughs, the foam-flecks from the cascade above circle slowly, is a still more delightful adjunct to the pleasure ground. It charms one with its ever-changing moods, now murmuring softly as it ripples merrily over its uneven bed in the bright sunshine, now voicing a deeper note as it plunges down a rocky fall, now silent as it glides softly

into the shadow, where the great Ferns sweep their curving fronds and the dragon-fly makes a momentary brilliance. Happy are those whose garden ground contains such a stream—a stream which should be a delight through all the changing seasons of the year. In the early spring there are the Snowdrops, Scillas, Anemones, Primroses, Snowflakes, and early Narcissi to spangle its banks, later on the Poet's Daffodils, rising from an azure carpet of Forget-me-not, then come the Irises and Spireas, Lilies, and tall Campanulas, Mimulus, scarlet

is necessary. Sometimes only slight alterations are needful, but occasionally circumstances compel an entire rearrangement of levels and conformation. It is in the latter case and where water is laid on to counterfeit the effects of a natural stream that the difference between artistically designed and artificial surroundings become conspicuously apparent. One can, unfortunately, call to mind numerous instances where falls and cascades, which should have been things of beauty, have been rendered offensive to the sight by reason of the crude



A rocky stream in a garden within three miles of New Street Station, Birmingham. From a photograph sent by the late Mr. James Pulham.

Lobelias, and a host of other flowers that will brighten its course during spring and summer, while in the late autumn the vivid crimson of the Winter Flag and the scented lavender blooms of *Iris stylosa* will not permit its environs to become colourless.

It does not often happen that natural streams possessing the diverse charms already alluded to are to be found within the confines of the garden grounds. In most cases some modification of the existing course of the running water

stonework within which they are confined and tortured out of all semblance to Nature. A glaring case of such misapplied ingenuity is in my mind's eye as I write. In this instance it was determined to lead a small volume of water to the face of an almost precipitous cliff, at the foot of which a narrow pool had already been constructed. Although a gush of water, apparently from the side of the rock, might have appeared slightly incongruous, it would, had it been allowed to find its own way down the

20 feet or so that intervened between its points of appearance and destination, have been little open to adverse comment after the cliff had become discoloured by its flow. Instead, however, of this leave-alone policy being pursued, a more ambitious and infinitely more aggressive design was conceived and carried out, artificial rockwork being built up the face of the cliff with stones absolutely unlike the rock in colour and texture, the most conspicuous positions being occupied by glistening spar. At the point of its egress the water, instead of trickling unostentatiously out of the rock, flowed in an even semi-circle over a lip of cement which protruded some inches beyond the face of the cliff, falling thence into the cemented course prepared for it, which zig-zagged aimlessly amongst the piled-up stones, escaping eventually into an oval cement basin, whence it brimmed over into the pool below. Thus was a feature that might have added materially to the charms of the garden rendered an eyesore by reason of its intentionally artificial construction. The constructor of an artificial stream-garden should be imbued with a desire to work with, not against, Nature. Water should fall naturally over stratified rocks, as in the accompanying illustration, which affords ample proof that artistic and natural effect may be attained even by artificial means. There should be a reason for every curve of the stream, for every rock that bars its way. A natural obstruction diverts the even flow of the stream, which either finds its way through a tract offering less resistance or, failing this, surmounts the obstacle, deepening into a pool above and falling in a cascade to a lower level on the further side. In the picture before us we see in the distance a vista through which the water flows placidly along a higher level; as it nears the half-submerged stones at the head of the fall it whitens into foam at the contact, and, passing on, leaps from ledge to ledge, till, shrouded by Flag leaves, it finds rest again in the still pool on whose surface the Ferns and overshadowing boughs are mirrored.

S. W. F.

AUGUST IN SOUTH DEVON.

THE rainfall for the past month has been below the average, amounting to but 2.10 inches on thirteen days, against an average fall for August of 2.78 inches, while during the same month of 1897 3.31 inches of rain fell on twenty days. The rainfall for the past eight months of the year shows a great decrease compared with the average fall for the period and for that recorded during the same months of last year, the figures being 13.16 inches of rain on ninety days, from January 1 to August 31 in the present year, 23.84 inches on 117 days during the same period of 1897, and an average fall for that time of 20.41 inches. We are, therefore, at present 7.25 inches behind our average rainfall for the year and 10.64 inches behind that of last year. The greatest fall of the month was 1.14 inches on the 18th, which fell within the space of about three hours. Of sunshine we have had 193 hours 35 minutes, which is a trifle in excess of the average for the month of 192 hours 45 minutes, but much below the record for August, 1897, which was 217 hours 35 minutes. During the past eight months 1307 hours 25 minutes of sunshine have been registered compared with 1339 hours in the same months of 1897, and an average for the period of 1321 hours 45 minutes. The mean temperature of the month has been high, reaching 63.6° against 61.2° in August, 1897, and an average for the month of 61.4°. The highest sun temperature has been 124.2° and the highest screen reading 78.9° on the 16th, which is the highest experienced during the year, and higher than any screen reading of 1897, in which year

the highest, 78.7°, was registered during the month of July. The lowest screen temperature was 48.2° on the 9th, and the lowest grass reading 45.2° on the same date. The month has been fairly calm, the total horizontal movement of the wind having been 6286 miles against 7977 miles in August, 1897. The highest daily record was 421 miles on the 30th, while the greatest hourly speed was reached between the hours of 8 and 9 p.m. on the same date, when a rate of 30 miles per hour was recorded. Ozone has been remarkably absent from the atmosphere, barely 50 per cent. of the possible having been present.

In spite of the dry weather experienced during the past two months there is as yet no sign of the sere and yellow leaf of autumn. The Chestnut hard by, which is always the first of the woodland to shift its verdant mantle for a robe of crimson and gold, is still darkly green; whereas in former years its ruddy glow was gleaming down the lane ere August had waned, and though the absence of insect life in the cooling upper air, from which the swifts draw their food supplies, has caused them to leave for sunnier climes, the swallows and martins, whose prey is found in the warmer layers of atmosphere that more closely envelope the earth's surface, have as yet shown no disposition to collect in companies on the house-tops and essay sudden, brief flights preparatory to taking a prolonged farewell of our northern shores; indeed, some of the young martins are but learning the use of their pinions. This tardy coming of autumn is a welcome reprieve. For a little longer we may ignore the presence on the threshold of the forerunner of winter, but it can be now but a question of days before the gleam of her bright mantle will become visible on woodland and hedgerow.

In the garden *Achillea ptarmica* fl.-pl. The Pearl has continued to flower abundantly, and the Monkshood (*Aconitum Napellus*) has borne a second crop of blue bloom-spikes. In a corner of the wild garden the giant *Acanthus mollis* and the dwarfier-growing *A. spinosus* have perfected their tall flower-rods, those of the former reaching a height of over 7 feet. Close to these, near an old dipping-well, *Gunnera scabra* spreads abroad its rugged leaves, and Siebold's Plantain Lily shows its cordate, blue-green foliage, while strong plants of *Canna Ehmanni* iridiflora, 5 feet in height, display many a pendent rose-lake flower-cluster above the smoothness of their Musa-like leaves. There are few *Cannas* that can compare for grace of form and delicacy of colouring with this, which is quite hardy in light soil in the south-west. The light blue of *Agathæa celestis* has a charming effect in the garden, especially when associated with some more vivid colour. In sheltered situations this will live through the winter, and in a particularly favoured garden I have seen a plant, nearly 3 feet through, blossoming almost in mid-winter. The bright orange of *Alstroemeria aurantiaca* was visible in the borders well into the month, but the more tenderly coloured hybrid forms were flowerless before the commencement of August. Sweet Alyssum, with its honeyed perfume, attracted the hive-bees from far and near, and the white *Antirrhinums*, where the seeding spikes have been removed, have formed attractive breadths of colour. *Anemone japonica* alba Honorine Jobert, over 5 feet in height, has been exceedingly beautiful, and if anything more floriferous than usual, not commencing in mid-July, as it did last year, but expanding its earliest blossoms on the opening day of August. Of the perennial *Asters*, or *Starworts*, *A. Amellus* bessarubicus with its large purple, golden-centred flowers has been conspicuous, and towards the end of the month the white *Aster Novi-Belgii* Harpur-Crewe commenced to blossom. The Plume Poppy (*Bocconia cordata*) was a striking sight early in the month with its tall spires of inflorescence of ivory-white and burnt-almond colour and its deeply-cut, glaucous foliage, whose reverse showed silver-grey when stirred by the wind. In deep and moist soil this subject will attain a height of 8 feet, and is especially adapted for positions where its attractions can be thrown

into high relief by a background of evergreens. The *Belladonna* Lilies have already commenced their display, their bright pink-margined petals being well set off by the chocolate-coloured flower-stems. The variety known as *blanda*, paler in tint and with petals more reflexed, appears as hardy as the type. The tuberous *Begonias* have been a blaze of gorgeous colour which has week by week increased in volume. Of the *Bellflowers*, the tall *Chimney Campanula* (*C. pyramidalis*) has reared aloft its stately spires of bloom, purple, white, and mauve, while the different forms of *C. carpatica* have also been in flower. Many a border has been bright with the large-flowered *Cannas* with their vivid scarlets and yellows, and the *Marguerite Carnations* are blossoming bravely in a number of gardens. The slender bloom-spikes of *Chelone barbata*, loosely set with hanging tubular blossoms of bright scarlet, have been very attractive, and *Chrysanthemum maximum* has produced its large Daisy-like flowers in profusion, the type, however, being far inferior to the variety known under the name of *C. m. grandiflorum*, a rather earlier blossomer, whose flowers are larger and whose growth is dwarfer and less coarse. The first pale purple blossoms of the autumn *Crocus* (*Colchicum autumnale*) are already in evidence, and *Cosmos bipinnatus* is expanding blossoms on plants sown in the open ground. The white variety is a charming flower, its delicately-cut *Nigella*-like foliage rendering it particularly pleasing. *Coreopsis grandiflora* still maintains the brilliance of its golden yellow, but after its extended flowering it naturally shows a disposition to reduce both the number and the size of its blossoms. If these are never allowed to wither on the plant it is astonishing for how lengthened a period it will continue to bloom. Later sown batches of the blue *Cornflower* provide pretty breadths of colour here and there, and in a sheltered garden a bed of *Crinum capense* has been crowned with several massive umbels of flesh-pink flowers. *Cypella Herberti* is evidently weaker than the preceding year, as only six blossoms have expanded against five times as many in 1897.

It is in August and September that the *Dahlias* are at their best, and none are so admired as those possessing the true Cactus shape of *Juarezi*. Many of the most perfectly shaped and coloured flowers, however, are not sufficiently thrown up from the foliage to give an ornamental effect to the plant unless the latter be judiciously thinned. Of scarlets and crimsons there is nothing in form and hue of flower to oust the first introduced of the class, *Juarezi*. Other handsome flowers of this and allied shades are *Gloriosa*, *Harry Strudwick*, *J. E. Frewen*, *Mayor Haskins*, *Miss Annie Jones*, *Mrs. A. Beck*, *Professor Baldwin* and *Starfish*; good yellows are *Blanche Keith*, *Daffodil*, *Eileen Palissier*, *John H. Roach* and *Lady Penzance*; of maroons, *Matchless* and *Night* are excellent; while of different shades of salmon, *Alfred Vasey*, *Fusilier*, *Mrs. Wilson Noble* and *Tillie* are charming flowers. Beauty of *Arundel* and *Cycle* are of a glowing lake tint, the latter being of better form, while *Bridesmaid* and *Delicata* are of delightfully blended pink and sulphur, and *Island Queen*, a pretty pink suffused with lavender. *Cactus Dahlias* are weakest in the white varieties, of which the new *Keynes* White gives promise of being the best; the pick of the other whites, *Mrs. A. Peart* and *Mrs. F. Fell*, are far from being of ideal Cactus form. Here and there side spikes of the blue *Delphiniums* are still bright, and the brilliant crimson of *Dianthus Napoleon III.* makes a spot of colour in the foreground of the border, while a few yellow stars of *Doronicum plantagineum excelsum* Harpur-Crewe mark the clumps that in the spring were sheets of golden bloom. The handsome *Globe Thistle* (*Echinops Ritro*) has borne aloft its blue spheres, and *Erigeron speciosus*, after a lengthened flowering period, still produces its lavender-blue, yellow-centred star flowers, while the Mexican Daisy (*Erigeron mucronatus*) is blossoming as profusely as in mid-June. The Coral Tree (*Erythrina crista-galli*) has been especially

effective during the past month, large plants of it growing to a height of about 6 feet in front of a wall and bearing long racemes of bright crimson flowers, some of them almost 3 feet in length. These spikes are handsome for indoor decoration, but discretion has to be exercised in cutting them, as both stems and leaves are furnished with sharp, curved thorns, which are capable of tearing the flesh cruelly. In cottage gardens *Fuchsia Riccartoni*, grown into tree size, is studded thickly with innumerable flowers of glowing crimson. *Gaillardias* are still bright with their red and gold, and in the early part of the month the Goat's Rues (*Galega*) were still very decorative, the Pea-like blossoms lasting well in the hot weather. The tall Cape Hyacinths (*Galtonia candicans*), with their tiers of loosely-poised ivory bells, are most effective in the garden, especially when associated with brightly-coloured flowers, such as *Gladiolus brenchleyensis* or *Salvia patens*. On sunny banks the *Gazania's* orange blazes, and here and there a spot of scarlet shows where *Geum coccineum* is still blooming. In many a garden sheaves of the scarlet *Gladiolus brenchleyensis* have created a brilliant effect, while the less pronounced tints of *G. Lemoinei*, with their pale sulphurs and buffs and blotches of chestnut and maroon, have well repaid closer inspection. The delicate flower-lace of *Gypsophila paniculata* has foamed over the margins of borders in billows of transparent grey. It is as charming in the garden as it is for indoor decoration, its contour and suggestion of subdued colour rendering it unique in the garden, while it is indispensable for arrangement with cut flowers of almost every description, retaining, indeed, much of its lightness and grace long after the sap has dried in its hair-fine stems. As the month was waning, the Golden Rods (*Solidago ambigua*) began to show their yellow-sprayed bloom heads in odd corners of the cottage gardens, where many a stately Hollyhock reared their massive spires of double and single blossoms against the white-washed walls.

The perennial Sunflowers have spread their gold over the garden, *Helianthus multiflorus* and *H. m. fl.-pl. Soleil d'Or* being the first to attain perfection, followed later in the month by *H. lætiflorus* and *H. rigidus* Miss Mellish, while *H. giganteus* began to show a fringe of pale gold where its lofty growths hid the turning of the lane ere August had departed. In sheltered spots plants of *Heliotrope* that had survived the winter in the open had made fine clumps odorous with blossom. In the early part of the month the variegated Day Lily (*Emmerocallis Kwanso fl.-pl. fol. var.*) was still producing its orange-buff blooms, while the great *Hydrangea* bushes daily enlarged their orb'd flower-heads, here light-blue around the boles of giant Elms, here flesh colour and pink at the edge of the shrubbery. *Lavatera trimestris*, where it has not been allowed to run to seed, has remained decorative in the garden, while for floral arrangement the satin-pink, crimson, and white flowers are most attractive, lasting well in water if cut before fully expanded. Of Lilies, the scarlet Turk's-cap (*L. chalcidonicum*) ushered in the month with its glorious colouring, more vivid than that of any other Lily. *L. canadense*, *L. pardalinum*, and *L. superbum* also blossomed, but not so strongly as in the preceding year, while *L. Humboldti* was far finer, throwing up 6 feet-high flower-stems plentifully set with orange-yellow, lake-spotted blooms. *L. auratum* flowered well in many instances, some in a neighbouring garden having attained a height of between 7 feet and 8 feet, while in my own some imported bulbs have bloomed fairly for the sixth year in succession. After the rest of the Lilies had passed the zenith of their beauty, *L. speciosum* was for a short space belle of the Lily bed, soon to give place to *L. tigrinum splendens* and *L. t. Fortunei*, the latter being the more satisfactory with me and attaining a height of about 7 feet. *Lobelia cardinalis* has been and still is blooming grandly, its vermilion flower-spikes, 3 feet and 4 feet high, rising out of a mass of Gentian-blue *Salvia patens*, an opulence of colour effective both at a distance and

near at hand. The *Lobelia* plants have now been undisturbed, with the exception of occasional late autumn division, for six years, and have never been afforded the slightest protection during the coldest winters. They are growing in heavy soil in close proximity to water and have endured 20° of frost with impunity. *L. rosea* is also blossoming hard by. In positions slightly screened from the sun, the scarlet flower-heads of *Lychnis chalcidonica* were noticeable early in the month, while in waterside gardens the rosy *Loosestrife* (*Lythrum*) was to be seen blooming. At the verge of shrubberies the rigid flower-spikes of the *Kniphofias* blaze against the dark background, and the *Montbretias* brighten the garden with their sheaves of graceful orange-scarlet flower-scapes. The crimson *Bergamot* (*Monarda didyma*) and its white variety were both in bloom during the early days of the month, their display being continued by *M. hirta*, while here and there along a shady path a few pendent yellow blossoms of the Welsh Poppy (*Meconopsis cambrica*) might be descried throughout the month. The sweet-scented Tobacco plant (*Nicotiana affinis*) still perfumes the garden during the gloaming—now, alas, arriving all too quickly—when the giant Evening Primrose (*Oenothera Lamarckiana*) expands its pale yellow blossoms to the twilight dews, and in the morning sunlight *Oxalis floribunda rosea* is still bright.

The Tufted Pansies are still fresh and delightful, but the Poppies have aided little in the floral adornments of August. A few fragile apricot-tinted blossoms have expanded on *Papaver pilosum*, and here and there the Iceland and Shirley Poppies have yielded bright infrequent flowers. Paris Daisies, yellow and white, have been blossoming freely, the young plants having continued the display so lavishly provided by the old specimens in the early summer, while the Ivy-leaved Pelargoniums are still almost as attractive as a month ago. It may not be generally known that the leaves of these plants when bruised emit a distinct Ivy smell. The herbaceous Phloxes were bright at the commencement of the month, when *Phygellus capensis* was producing on 4-feet-high stems its brilliant flower-racemes. Towards the close of August the calyces of the Winter Cherries (*Physalis Alkekengi* and *P. Franchetti*) commenced to assume the tint of orange that will grow brighter with the succeeding month. A large plant of *Plumbago capensis* planted against a sheltered cliff, which has passed through the winter in the open uninjured, is covered with its light blue bloom-clusters, while *P. Larpentæ* is bearing its more deeply tinted flowers in the rock garden, where *Polygonum capitatum* and *P. vaccinifolium* are in bloom. Before the month had waned the tall *Pyrethrum uliginosum* had commenced to expand its slender rayed white stars, while two of the Coneflowers (*Rudbeckia Newmanii* and *R. purpurea*) both useful autumn plants, were in bloom. The single white Macartney Rose has borne many of its simple faintly-scented blossoms, which, though not so large as those of *R. lævigata*, have the merit of opening until mid-October. The Tea Roses have bloomed well in spite of the drought, and some of the Austrian Briers have given a second flower crop. In some gardens scarlet *Salvias*, which live through a mild winter, have been in flower, *S. coccinea* and *S. fulgens* being the varieties most generally met with. This year's plants of *Scabiosa caucasica* are now producing their charming pale blue flowers, and the Sea Lavender (*Statice latifolia*) has perfected its graceful inflorescence. The great Sunflowers in rows hang their broad brown discs in many a cottage garden, and the Sweet Peas are still gladdening the garden and house with their perfumed, suavely-tinted flowers. Early in the month the *Tigridias* formed a picture of marvellous splendour, the great, widely-spread blossoms, scarlet, lake, white, and yellow, all sumptuously spotted, poised on the bed like gorgeous tropical butterflies. *Tradescantia virginica* has borne its violet blooms, and *Zauschneria californica* a profusion of its bright vermilion flowers, while the single

scarlet *Zinnias* make vivid breadths of colour here and there. Of

SHRUBS AND TREES,

large plants of *Aralia japonica* have produced their Ivy-like flowers, while the feathery flower-plumes of *Aralia spinosa* have had a distinctly charming effect poised above its spreading leaves. When growing this subject, the best result is obtained by keeping it to a single stem until it is at least 12 feet in height, when it may be allowed to branch at will; by this method of treatment a tall, clear stem is obtained, the effect of the tree being almost Palm-like for a year or two after the desired height of stem has been attained, while afterwards the effect produced is far preferable to that provided by specimens allowed to assume bush form at an early age. *Arundo conspicua* is a valuable addition to gardens in the south-west, being practically hardy in that district, and large clumps, with thirty to fifty lissom shafts, tipped with silky, drooping plumes, bending gracefully and swaying with every breath of air, are extremely effective, far more so, indeed, than the stiffer, though more hardy *Pampas Grass*. A sheltered position should be provided for this *Arundo*, for the slender shafts are easily broken by strong winds. *Choisya ternata* has whitened with an autumnal blossoming, and *Cytisus racemosus* is in many cases golden with bloom. Early in the month I observed *Catalpa bignonioides* in flower, while later on *Clethra arborea* was bearing its clusters of white bells. *Desfontainia spinosa* has spangled its Holly-like foliage with its scarlet tube flowers, and *Escallonia macrantha* is bearing a second crop of rosy bloom, while the white-flowered *E. montevidensis* has produced its scented flower-spikes, on which on sunny September days the red admiral butterflies love to linger. The Rose of Sharon (*Hibiscus syriacus*) has blossomed profusely, the pure white variety known as *H. s. totus albus* being by far the most ornamental form. The large standard *Magnolia grandiflora* has this year excelled itself in floriferousness. During the past month this tree, which has a height of over 20 feet and a branch-spread of over 30 feet, has borne almost 200 odorous white chalcies, and as it is now at the zenith of its flower-production, ten to twenty blossoms opening each sunny morning, should reach a total of 500 blooms during the present season. During the month I chanced to see a large standard bush of *Cydonia (Pyrus) japonica* some 8 feet in height and as much through that was bearing a fine crop of fruit from the size of marbles to that of Walnuts. *Leycesteria formosa* is bearing its white flowers in their conspicuous purple bracts in quantity on gracefully arching sprays. The Virgin's Bower (*Clematis Flammula*) has been prominent amongst the climbers with its myriad ivory-white, richly perfumed stars, and the large purple blossoms of *C. Jackmani* have displayed their velvety richness from trellis and balcony, while the Old Man's Beard (*C. Vitalba*) is festooning tree and crag with its flower-wreaths, to be followed later on by the still more conspicuous seed-vessels that hang like trails of grey smoke from bough and ledge. *Eccremocarpus scaber* has produced its orange-red flower-sprays, and in the hedgerows the Honeysuckle is sweet. *Mina lobata* thrusts its yellow and red flowers through the thick tracery of other creepers, even the *Muhlenbeckia* not being equal to strangling its growth. The white Morning Glory gleams against a fence, but the beauty of the Everlasting Pea was waning while the month was yet young. The Passion Flower's growth is starred with blossoms blue and white, and *Physianthus albens* has been a mass of blossom. *Solanum jasminoides* is week by week attaining a greater perfection of beauty, and is certainly the climber of the south-west *par excellence*; its first blossoms opened in April, and ever since it has been in flower, until at present the house from eaves to ground level is swathed in white bloom-clusters that hang loosely on long, swaying sprays that in places stand out a good 3 feet from the wall and embosom the windows in penthouses of flower

and foliage. *Tropæolum speciosum* is still flowering sparsely, and the purple berries of its earlier blooms hang from the wall. *T. tuberosum* is just commencing to flower, but *T. Lobbianum* and *T. canariense* have been bright in scarlet and gold throughout the month, and the old *Wistaria*, whose gnarled and sinuous limbs surmount a length of high wall, has dowered August with an unexpected wealth of scented lavender flower tassels.

S. W. F.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday evening last, the executive committee of this society held a meeting at Carr's Restaurant, Strand, Mr. T. W. Sanders occupying the chair. The usual preliminaries having been disposed of, it was announced by the secretary that the prize-money awarded at the recent September show of early Chrysanthemums, &c., had been paid, and that the following awards to miscellaneous exhibits were made by the arbitration committee, viz., small gold medals to Mr. H. J. Jones and Mr. T. S. Ware; silver-gilt medals to Mr. Green, Mr. Mattock, and Mr. Witty; silver medals to Mr. Chard, Messrs. Cannell, and Mr. F. W. Seale; small silver medals to Mr. Foster and Mr. Wells; and a bronze medal to Mr. T. Williams, all of which awards were confirmed. It was resolved that the catalogue and classification committee hold a meeting during the November show. Mr. Waterer called attention to the prevalence of Chrysanthemum rust, and considered the society ought to take some action in the matter, as it was of vital importance to all growers. Mr. Waterer gave his own experience of the disease, and was followed by several other speakers, whose experience seemed in some cases to vary. Finally, it was resolved that a committee be appointed to engage an expert to lecture on the subject at a conference to be arranged for the evening of the first day of the October show. This course seemed to meet with very general approval. New members were elected, and the Timaru Chrysanthemum Club was admitted in affiliation.

FLORAL COMMITTEE.

A meeting of this committee was held on Monday last at the Royal Aquarium, Mr. T. Bevan presiding. The meeting was a small one, there being but few members present and a very small number of exhibits. *Crimson Pride*, a medium-sized Japanese with flat florets, colour deep crimson, was commended. *Yellow Queen*, a pale yellow sport from *Queen of the Earlies*, was promising, and the committee asked to see it again. Probably one of the best was *Soleil d'Octobre*, a finely-formed Japanese with long drooping florets; colour very pure pale yellow with silvery yellow reverse. No certificates were awarded. Two new cups and tubes were exhibited, one by Mr. Burgin, the other by Mr. Wright.

Burning garden rubbish.—The information afforded by "W. I." under the above heading should prove useful to many others besides "P. B. C. B." I have all kitchen garden refuse, sweepings of roads and walks, pieces of short branches, &c., burnt up in the way described by the aid of Laurel and other shrub trimmings and prunings, as well as hedge trimmings, tree loppings, and also branches and twigs brought down by high winds and gales in the autumn and winter. This is an excellent way of utilising materials of the latter description that in many places are too often allowed to lie about and become an eyesore, and which are practically worthless for any other purpose. The resulting ash when all has been properly burnt in the manner described by "W. I." is of great value in a garden for many purposes, not the least of which is in the dressing of fruit borders and plantations in the winter months. I also use a

certain amount of wood ashes when making new fruit borders, and that it is a good plant food is evidenced by results.—A. W.

The drought.—The drought at present (September 22) shows no signs of breaking. It is proving most disastrous to garden crops generally, particularly to what are usually called green crops. The plague of caterpillars that came like locusts has left nothing but the stumps to mark where the green crops should have been. Dressings of soot, lime and other noxious mixtures had no effect whatever, and the only patches that have pulled through the trying ordeal thus far are small ones, where the owners have been able to handpick their crops daily. Of course this is out of the question where many acres have to be dealt with, consequently many of our market growers have lost heavily by this scourge, which, coming at the end of the long drought, has proved very disastrous to many, as there is no time to get other crops forward before winter comes on. The outlook for winter is very bad indeed. Although so many crops are well-nigh dead from want of rain, it is doubtful if to many things rain will prove of much value. For instance, Strawberry plants are dried up, and if the rain were to start a fresh growth now this would certainly not do any good to next year's flowering. Rhubarb roots lost their leaves and went to rest prematurely, and if rain should come the growth would be from crowns that should remain dormant. The drought will probably hold on until lower temperatures prevail, and there will be little chance of premature growth, for the soil is so dry that a fairly heavy shower dries up in a few hours.—J. G., Gosport.

NOTES OF THE WEEK.

The single China Aster.—We send for your inspection a few blooms of the single China Aster, which has been blooming in our nurseries and forming quite a pretty picture. Each plant forms an elegant bush 15 inches high, covered with flowers which are invaluable for cutting, as they last long in water. The plants continue flowering for a long time.—BARR AND SONS.

Chrysanthemum Soleil d'Octobre.—This variety was well represented recently in a fine trade display, and promises to be one of the most serviceable of the large Japanese flowers for late September and October displays. The colour is a pleasing canary-yellow with a paler reverse; florets of good width, recurving neatly and curling at the tips. It comes good on any bud, and the plant is also very dwarf.

Rudbeckia Newmanii.—This showy Cone-flower is made much of at Gunnersbury House, where it is grown in large masses in a border devoted chiefly to hardy things. The plants were somewhat numerous, and, being of uniform size—each plant upwards of 2 feet across—were very effective. They were associated with Michaelmas Daisies, both early and late kinds, some of which, as, e.g., *Aster bessarabicus*, were already in flower.

A note from Ireland.—Narrow Water Park is as lovely as ever, and the rock garden is superb. The big *Gunnera manicata* is 36 feet through, 12 feet to 14 feet high, leaf-stalks 9 feet to 10 feet long, leaves 9 feet to 10 feet across. Firefly *Lobelia* is gorgeous here, and *Apera arundinacea* most distinct and graceful. *Bambusa Fortunei aureo-variegata* (*B. auricoma*) is flowering here, and the whole place is most beautiful.—F. W. B.

Helianthus multiflorus maximus.—This is the giant of the perennial Sunflowers of this group, and a noble plant withal by reason of the handsome, well-formed flowers. The great heat, however, coupled with the long-continued drought, has not favoured these this year unless in a few districts. As a rule, however, the early autumn rains come in time to suit this group well. This year the flowers are wanting in size also, as may have been anticipated.

Chrysanthemum Eulalie Morel.—Among the early-flowering kinds this is an especially pleasing flower, though its colour is difficult to describe. It is a mixture of salmon and rose, while the central incurving florets are tipped with gold. By artificial light as well as by day it is equally pleasing, and being dwarf and free should favour its general cul-

ture. The habit also is good, but this season it is not much more than 2 feet high, which is a foot short of its usual height.

Crocus pulchellus.—The beautiful little *Crocus pulchellus* came into bloom here on September 23. Smaller and distinct in every way from the fine *C. speciosus*, which opened the same forenoon, this little gem deserves a sheltered and sunny spot in our gardens. Here I find it one of the most reliable of the autumn Crocuses, and as it seeds freely it is of rapid increase. The flowers vary from almost pure white to pearl blue.—S. ARNOTT, *Carslithorn*, by *Dumfriesshire*.

Delphinium Belladonna.—There is no season of the year in which the lovely flowers of this Larkspur are not welcome, for it is quite unique among its kind, as much for its dwarfness as for the sky-blue of its flowers, and not less so the well-nigh perpetual manner in which they are produced. It is one of the very few Larkspurs that may be employed in small vases, so dainty and beautiful are the frail spikes of flowers. The plant is even now keeping up a nice display that may continue if frost is absent.

Dwarf Chrysanthemums.—Perhaps no varieties of Chrysanthemums can surpass the following trio in their very dwarf, compact habit, which renders them of considerable value for margins or edgings to other kinds, or indeed other plants. The kinds referred to are *Mme. La Petite Marie*, *Mlle. Jolivart*, and *Toreador*. These are pure white, white slightly flushed with delicate lilac, and bronze respectively, and belong to the pompon or hybrid pompon class. This, with comparative earliness, should make them welcome in the garden.

Gynierium argenteum Rendatleri.—The old Pampas Grass is a very fine plant in the garden at the present moment, where its silvery plumes make a pleasing feature in the landscape. It is, however, surpassed by the above-named kind, in which the plumes are more one-sided than in the original form. Its chief value, however, lies in the great freedom of flowering, as also its robust growth. All this was well seen in a fine-flowering piece shown by the Messrs. Veitch at the Royal Horticultural Society on the occasion of the last meeting.

Dahlia Ranji.—In the Cactus section of these flowers, to which *Ranji* belongs, there are several varieties which are exceptionally dark in colour, *Matchless* and *Night* being of this number, but which the above now appears to supersede. The colour is a most intense maroon-black, the tips of the florets of a brighter hue. Individually the flowers are not large, yet ample for all purposes. It is to be hoped that size will never be aimed at in this essentially decorative group. Huge flowers are never needed in decoration, if indeed they are on the exhibition table, and much less so in their truer sphere in the garden.

Chrysanthemum Crimson Pride is a useful Japanese decorative variety, although as staged at the recent floral committee of the National Chrysanthemum Society the plant must have been severely disbudded. Each flower was shown on a stout stem, and although cut from the open flowers were not in the least affected. The colour is a chestnut-crimson with a bright bronze reverse, florets rather short, broad, and of good substance. The blooms very much resemble those of an old variety known as *Souvenir de M. Menier*, certificated some years since. The habit of the plant is good, and it usually attains a height of about 3 feet.—C. A. H.

Clerodendron trichotomum.—This *Clerodendron*, mentioned incidentally on p. 223, has proved a disappointing plant to a considerable number who have tried it. I have no reason to doubt its hardiness, but even in gardens where one would think it likely to bloom early it cannot be induced to flower in the open in time to escape frost. This is unfortunate, as some of us were looking forward to having so fine a plant in our gardens. Even in the neighbourhood of Dublin where I should have expected it to bloom the experience is generally unfavourable, so that

it is, I fear, hopeless to expect it to flower with us in Scotland in the open.—S. ARNOTT, *Carse-thorn*, by Dumfries, N.B.

Michaelmas Daisies from Newry.—I send you a few bunches of Michaelmas Daisies. Candidus is the best white. Cottage Maid is a pretty shade of rosy lilac and has an excellent habit. F. W. Burbidge is of a much deeper shade, and is also one of the best, and St. Brigid is very beautiful, its soft blush flowers charming. I also enclose a few of the lateral spikes of Lobelia Distinction. T. SMITH.

*** A beautiful and varied lot of flowers, showing that the conditions of climate are far more favourable than in the neighbourhood of London and on the south coast of England, where the Michaelmas Daisies are this year very poor owing to the want of moisture.—ED.

Aster John Wood.—The garden of hardy plants owes much of its interest in autumn to the newer Starworts, now, happily, both plentiful and cheap enough. Since the Michaelmas Daisies have been taken in hand, it is wonderful the progress that has been made. Finality has not been reached, and varieties now considered in the first rank will, it is highly probable, be superseded in future years. Among the best of the white-flowered varieties is John Wood, now in bloom here. With large, well-formed flowers of pure white, with the exception of the yellow centre, it is of great beauty. It does not grow more than 3 feet high in this light soil, so that it is not so troublesome in the way of staking as some.—S. ARNOTT, *Carse-thorn*, by Dumfries, N.B.

Carnations in early autumn.—Many Carnations, of which Raby Castle and Uriah Pike are examples, often produce quantities of good flowers in early autumn, but this season the supply is very meagre. This is doubtless in a measure due to the great heat of the year, and is unfortunate, seeing some of the best coloured flowers of the first-named kind may often be secured at the end of the year when cooler days and nights put in an appearance. The effect of the diminished sun-heat is very remarkable, too, in these highly-coloured pink kinds. The other kind is not affected in the same way, and in the average season gives a most valuable second bloom. This season, however, the blossoms are only occasional, though of good quality.

Erythrina crista-galli.—Very few plants of such striking appearance as this have in all probability suffered a similar neglect. Many very old gardens, where one would expect to find fine old clumps of it valued at their full worth, are without a vestige of the plant, yet in flower the plant is quite unique. Some years since in a Herefordshire nursery garden I came across some giant pieces of it at the sunny end of some span-roofed greenhouses, the plants perhaps 7 feet high, and each with a score of growths that gave them considerable bulk. As I saw them in their fullest beauty they were showy and brilliant indeed. I was reminded of the sight by a few flowers at the Drill Hall last week, taken, it was said, from a plant forty years old—a long time for a hardy perennial to occupy one position. The plant is still worth planting, however, in certain positions.—J.

Senecio pulcher.—Some groups of this handsome perennial have been very fine this year, though more especially in those instances where good established pot plants were put out quite early in the spring. It is surprising that this Groundsel is not more often grown. For those who require a very late display in the open, what more effective plant could be recommended? Particularly good is it for a September display or even later, where a little attention is given to culture. This Senecio is one of those things that repay frequent renewal, an item readily accomplished by means of root cuttings, and where a late display is valued no better way of securing it can be adopted than the following where root cuttings have been resorted to. The largest of these will as a rule be planted out in early spring,

and many flower the same year, but if the smaller plants be confined to pots of small size till June and then shifted into others 5 inches in diameter to be planted out in March ensuing, a fine display may be relied upon. At all times the plant delights in overhead watering. Firm soil, not too rich, is also desirable.—E. J.

Early frost sufficient to blacken Scarlet Runner Beans and Vegetable Marrows has been freely experienced in this portion of the Thames valley during the first three nights of the present week. The former, however, where the bine remained erect is unhurt, but a small portion thrown over by the breaking of the sticks in the upper part, and in consequence forming a table for the dew, is quite black. Right and left of this is still green.—E. J., *Hampton*.

Seldom have we been visited in this locality with frost of such severity as that experienced on the 24th, 25th and 26th of September last, when 5°, 7° and 5° respectively were registered here. As may be expected, all such tender things as Dahlias, Vegetable Marrows, French Beans, &c., were cut down and blackened, while it necessitated the hasty housing of Chrysanthemums. The worst effects have been felt in the kitchen garden, as in the flower garden, which lies some 70 feet to 85 feet higher, such tender things as Heliotropes and Cupheas are hardly touched. In the neighbourhood the same amount of damage has been done in cottage gardens, and the tops of late Potatoes have suffered considerably. It is to be feared that many will gather their Apples and Pears under the impression that it will not be safe to leave them longer on the trees. No greater mistake can be made, as, although tender vegetables and flowers may be considerably damaged, if not killed outright, the above-named fruits have in reality sustained no harm. These, especially the late-keeping kinds, should therefore be left on the trees as long as possible, and not be gathered one day earlier than is necessary.—A. W., *Hereford*.

Oxalis lobata.—There are not many of the Oxalises grown in gardens as hardy flowers, and some interchange of experience regarding the various species would be of service to many. The nomenclature is doubtful, partly owing to the way in which the plants become mixed if grown in beds together, and also from seedlings growing where they are not wanted. I think there is, however, little doubt of the correctness of the name of the little Wood Sorrel which is the subject of this note. I have had it since 1894, when I received it from a nursery near London, with the recommendation to grow it in a frame. This was not adopted, and as it has been always unprotected since received—in May or June of the year mentioned—I have now no fear of its hardiness here. It is grown in light sandy peat and is in a well-drained position on rockwork. Here it comes into flower in September or October—this year in the middle of the former month—and lasts until severe frost comes. It forms a dwarf plant, only about 3 inches high, and has bright glossy yellow flowers margined with red. According to some they should be spotted with red, but here the flowers are pure yellow when open, the red margin being seen when the blooms are closed. Like other Oxalises, the flowers only open in the sun, and this to some degree detracts from their value in the garden. O. lobata is, however, very interesting even when closed, the pretty way in which the petals are twisted when folded and the narrow red margin making the flower very pleasing. For the rock garden in late autumn such plants as the lobed Wood Sorrel are particularly valuable. It was introduced from Chili in 1823.—S. ARNOTT, *Carse-thorn*, by Dumfries, N.B.

The weather in West Herts.—During the past week the days have been, as a rule, warm, while the nights, on the other hand, have all proved more or less unseasonably cold. On three nights the exposed thermometer showed from 2° to 4° of frost, but no harm whatever has been

done in my garden by any of these frosts. The temperature of the ground has again fallen, and is now, both at 1 foot and 2 feet deep, only about 3° warmer than is seasonable. Rain fell on the 28th ult., but only to the depth of about a tenth of an inch. No rain-water at all has come through either percolation gauge since the end of August. On the 23rd ult. the sun shone for 10½ hours, which is the longest duration as yet recorded here so late in September. The past month was a most remarkable one in many respects. It was the warmest of the fourteen Septembers of which I have here any weather records. The days were, as a rule, much warmer than the nights; in fact, in the same month in 1896 the nights were decidedly warmer than they were this year. Taking the month as a whole, the only September in any way approaching it as regards warmth was that of 1895, which was 1° less warm. On the six hottest days the shade temperature rose respectively to 83°, 84°, 90°, 83°, 83°, and 88°, the previous highest in the same month being 82° in September, 1895. At 2 feet deep the temperature of the soil rose in the middle of the month to 67°, and at 1 foot deep to 72°, the previous highest for September being respectively 64° and 69°. Rain fell on three days to the total depth of little more than a tenth of an inch, making this not only the driest September at Berkhamsted, but also the driest month but one (February, 1891) during the forty-three years for which rainfall records are here available. The sun shone on an average for seven hours a day, or for a longer period than in any preceding September. In the same month in 1895 the record was, however, very nearly as good. The most exceptional feature of the weather of the month is, however, found in the small quantity of moisture in the atmosphere. Taking 100 as representing the air completely saturated with vapour, the relative humidity for the month at 3 o'clock in the afternoon comes out as 48; whereas in no previous September has the average relative humidity at that hour been lower than 56. On the hottest day of all, the relative humidity at 3 p.m. was only 30. I am writing this report on the 28th ult.; should any decided change in the weather take place during the next two days September may easily lose the position I have here given it as the driest but one in the last forty-three years. But whatever happens the particulars given as to temperature and sunshine must hold good.—E. M., *Berkhamsted*.

New park for Forest Hill.—The district of Forest Hill will shortly have the benefit of a fine open space under the care of the County Council. Mr. Horniman is now laying out a park there, and there are reasons for believing that when the work is finished the London County Council will be asked to take it over.

Keeping Walnuts.—Will some of your readers oblige by informing me of the best way to keep Walnuts in a fresh and eatable condition?—J. G. W.

Bog garden.—I have a shady corner at the angle of north and west walls, at the end of a lawn. I want to make a bog garden of it. There are about 4 or 5 square yards. How shall I go to work? Is it necessary to put in a cement bottom? The soil is rather stiff and retentive.—A. E. GIBBS.

Ferns in porous vases.—Will some reader tell me how to treat Maiden-hair Ferns in the porous vases originally procured at Malta? Of twelve brought to this country only one survives in a satisfactory condition. That one has been well watered, or rather the vase has been filled with water every day, and it is a mass of foliage 2 feet across. But now bare patches are appearing. The owner, a lady at Hoylake, would be glad to know what must be done to the plant; whether it should be cut down, or whether liquid manure should be given. Any information will be gladly received.—W.

Name of fruit.—Henry Fowler.—Pear Bennie Hardy.

Names of plants.—Mrs. Charrington.—Saponaria officinalis fl.-pl.—P. Davidson.—Galium verum.—C. R.—The Cockspar Thorn.

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ORCHARD AND FRUIT GARDEN.

GATHERING FRUIT.

It is surprising what an amount of good fruit is wasted by gathering too soon or too late. Apples, as an instance, are left on the trees in many cases until a few of the forwardest drop, and these are often the finest and best samples. Then the whole of the fruit on the tree is gathered, some ripe, but perhaps the majority only half ripe. On large old orchard trees, where ladders have to be used, there is some excuse for this, as not only does it save a lot of trouble, but the trees are easily damaged with a heavy ladder. On the small bush and espalier trees, however, there is no such excuse, and with very little trouble the fruits may be looked over, first when the most forward are ready, again in a week or ten days afterwards, finishing by taking off the smaller and unripe samples that it is evident will never reach maturity. The time to gather Apples is easily known by anyone with a little experience. It is wrong to wait until they are so loose as to apparently fall into the hand, but no great force should be needed to sever the fruit from the tree, nor should any wood come with the stem. The stem must not slip out of the fruit, but should break at the natural division. Apples on a light soil are ready to gather as a rule before those on a heavier one, the length of time the samples keep depending upon the proper manurial constituents being in the soil and their being in a proper atmosphere and temperature after gathering. It is not everywhere that a sufficient amount of shelf room exists for storing all the fruit, and in such cases I have had good results from packing the fruit as it comes from the tree into champagne boxes. These boxes are taken to the trees and all selected fruits placed in them. No straw, paper, or anything else is used, and the wood the boxes are made of is absolutely odourless. The boxes when filled are taken to a cool lock-up shed; if possible they are allowed to remain

open a day or more before storing away, but as the lids are only narrow strips of wood, this does not make any material difference. It is surprising how well many of the thin-skinned Apples keep when treated in this way, and there is nothing to fear as regards a decayed fruit damaging a sound one, provided, of course, all are carefully gathered and packed. The least abrasion of the skin will spoil a sound fruit, but I have, when taking the fruit out, found a specimen quite rotten with every surrounding one sound as when it was packed. The only thing is, great care must be exercised in handling, and every fruit showing the least bruise must be rejected. In the case of early developing kinds of the Codlin type the fruit will be found to keep much better if gathered before it gets too ripe. In the latter state it is almost impossible to handle the fruit without bruising it.

Much that has been said of Apples applies to Pears, but a knowledge of varieties is of importance here. The earlier kinds, such as Jargonelle and the smaller Doyenné d'Ete, and even later Bon Chrétien and Souvenir du Congrès, should all be gathered before they are quite ripe and kept in a cool fruit room to finish. Jargonelle comes quickest to maturity after gathering and soon passes its best. Large sound specimens of Bon Chrétien keep better, but it takes a little experience to catch it just right. If allowed to lie about after removal from the fruit room it loses its freshness and becomes mealy. Souvenir du Congrès is somewhat similar in its requirements, and large, well-grown samples are better than those of Bon Chrétien and somewhat later. Most of the varieties that ripen later than these may be left on the trees until they part readily, though I have known some of the earlier of the Beurré race much better in flavour when they have been gathered early with a view to keeping a succession for dessert. Marie Louise I have often hastened in this way with no ill-effects upon the flavour, especially samples grown on a warm wall, but as a rule this and all

later Pears should, unless birds are very troublesome, be left on late.

In gathering Peaches and Nectarines on a hot day, a thin cotton glove may be put on, this, according to my experience, being far better than a pad of wool, as sometimes used. This deadens the sense of touch in the fingers and it is unnecessary, for anyone may easily tell when a Peach or Nectarine is ready to gather by lifting the fruit and thus straining the stem a little. Unfortunately, wasps and large flies too often settle the question of when Peaches, Plums and other soft fruit shall be gathered. The various destroyers are excellent under glass, but practically useless in a hot, dry autumn out of doors. White garden net placed over the fruit is the only safe preventive, and this of course is only feasible on a small scale, as it must be tied very closely to keep these insects away. Still, if done early enough it keeps birds off in the first instance, and these often commence the mischief, the insects finishing it. C. H.

Two valuable Nectarines.—Early Rivers is a grand acquisition, and as it does so well on open walls it ought to be found in every garden. For years I have found no variety equal to Lord Napier, but this is now superseded by the newer variety, which, being earlier, equally as large, and as hardy and free cropping, is a great gain. Lord Napier must not be despised, as there is room for both. The newer Cardinal is less useful, as it is of little use for open walls. When forced or grown in a cool house it is a beautiful fruit, and those who value size and quality will include it in their collections. It is also earlier than the two varieties mentioned above. A small plant on a back wall did so well that I intend to grow it more largely.—G. W.

Peach Marquis of Downshire.—This Peach is but little grown. In many gardens it is grown under the name of Royal Ascot, a name given by the raiser when first brought out. Few varieties are more reliable as regards cropping, and being late it is valuable on that account. Fortunately, most of the September Peaches are of good flavour if the season is favourable, and this variety

is one of the best in this respect. The fruits are not very large, but they are freely produced, the quality also being good for a late Peach. I do not grow it under glass, so am unable to note its quality. It is one of the best late September kinds, and growing well in a poor soil it should find favour. Many need late Peaches, and this variety will be found good if the soil is well drained. My trees occupy a rather light soil.—G. W.

Peach Late Devonian.—I noted the good qualities of this Peach when given an award at the Royal Horticultural Society's Gardens, Chiswick, in 1894, and a first-class certificate recently, and have since proved it to be one of the very best for late use. It is a handsome fruit and of good colour. The flavour is excellent, the fruits being large, the exposed side dark crimson, flesh pale yellow, very melting and juicy, with a rich flavour. It does grandly on a south or west wall. The tree is vigorous, and was raised from crossing Belle de Vitry and Late Admirable. I find it is of much better quality than Late Admirable and a better cropper. With me Late Admirable is not reliable, whereas Devonian for two seasons has been excellent, the trees making a splendid growth. I have not grown it under glass. I admit the season has been favourable for ripening early Peaches, but some varieties had a very poor crop owing to the severe cold in the spring. The variety in question was not at all injured.—G. WYTHES.

MILDEW ON VINES.

My Vines having been for a second time attacked by this much-to-be-dreaded pest, I perused with the greatest interest the notes by Mr. Riddell on page 228, together with those from Mr. Iggulden in a previous issue. Until last year I had had no experience with mildew on Vines, and a remedy sent and guaranteed by a very successful Grape grower in the autumn of last year was hailed with delight. During the winter the usual dressing of the Vines, roof cleaning by scrubbing, lime-whiting the walls, and the removal of the surface soil were carried out, hoping that mildew had not "come to stay," but such anticipations became only a myth, for by the time the Grapes were ready for thinning, occasional berries were found coated with the dreaded fungus. Even then, by careful and daily search for the isolated berries, and their prompt removal, there remained slight hopes that its progress would be arrested. This, too, was denied me, particularly in two late houses containing Black Hamburgh and a mixed collection respectively. The remedy that raised in me such decided hopes was sulphide of potassium, a specific that has had such an oft-repeated notice during the past season, particularly among Chrysanthemums, with which there arose such a scare in the autumn of last year, by reason of a new fungoid disease attacking them, and in some cases so virulently. I saw one large collection so hopelessly ruined by its presence last November that I had some misgivings as to going into the house among the infested plants, fearing that I might carry home the spores sufficient to set it growing among my own stock, which was free. Fortunately, however, nothing came of the dread thus raised, and I had hoped the same favourable immunity would obtain in the case of the Vines.

The advice as to applying the sulphide of potassium was zealously followed out, although the course was very simple and its preparation devoid of that infinite detail recommended for other decoctions. A half ounce of the sulphide dissolved in a gallon of water is the usual quantity recommended, and with this the rods were thoroughly soaked by the use of a brush. This was the finishing touch put on after the other preliminary work had been done, namely, the cleaning of the house and the border surfaces. In houses where only slight trouble was given a dusting of sulphur was applied to the affected bunches, and a coating of the same put on the hot-water pipes, which were frequently heated so as to diffuse the fungoid-destroying

fumes freely in the air during the evening when the ventilators were closed. The structures themselves and the means provided for ventilation probably are in favour of the growth and spread of the disease, and the arrangement of the pipes facilitates its progress rather than affords the required assistance in combating the enemy.

Finding that the houses successively started almost in every case developed symptoms of mildew as they advanced to the stage for attack—the setting time—I was determined to test in one house, or division at any rate, what the sulphide would do applied as an ordinary insecticide by syringing the Vines, bunches and all, immediately previous to and after the setting of the crop. It was in this house where mildew became more rampant than in either of the other divisions, and thus my hopes, which in the autumn previous had given rise to so much confidence in the declaration of a successful battle with what always proves so troublesome a garden enemy, met with failure. I then tried sulphate of iron, giving the borders of the infested houses a very light sprinkling. The quantity advised for applications in solution being only an ounce to a gallon, the smallest quantity that could be put on in a dry state should suffice. This was applied when other means failed, with the hope that by its transmission through the roots and sap of the Vines some good might be done in the storage of sap for future growth, if it did not actually arrest its progress during the current season. I shall certainly endeavour by the means adopted and advised by Mr. Riddell to make a more hopeful start next year by testing the virtues of sulphate of iron as suggested, and if the results favour those obtained in your correspondent's case, I shall hold him a good benefactor to the Grape-growing community.

In sulphur itself I have not so much confidence. I have little doubt but that there are varying qualities in sulphur as in every other manufactured article, and I may not always have been fortunate in choosing the best for the purpose, and to some extent this may apply also to the iron sulphate, although this latter was obtained from what appeared to be a good source. It would be very interesting if any other reader could supplement Mr. Riddell's experience in the effectual riddance of mildew by the use of sulphate of iron.

W. STRUGNELL.

GROSS-GROWING VINES.

THERE are certain naturally gross-growing varieties of Grape Vines which under ordinary culture invariably refuse to fruit freely, needing special root treatment to ensure fertility. If a house can be spared, it pays to devote it to the growth of these strong-growing sorts alone, as then their wants can be attended to. When planted by themselves the best plan is to confine them to an inside border, making only about 4 feet of this for a start and not more than 2½ feet deep, the compost consisting of a medium loam with no manure of any kind but a liberal supply of old mortar rubble. The border should be made very firm and no increase in width made for two years. At the end of that time another couple of feet may be added, and this with annual top-dressings will probably carry them on for several years. Under these conditions the wood will be of moderate thickness, becoming well ripened by autumn, bunches being correspondingly numerous. Amongst these strong growers may be mentioned Trebbiano, a useful Grape for spring use when ripened in sufficient heat, and one which if well thinned does not damp off in foggy weather like some sorts. Barbarossa also responds well to this mode of treatment, but needs in addition to a non-stimulating larder to be carefully pruned, always leaving a good eye for bunch-production. Barbarossa has been termed a coarse Grape, but when properly grown

it is the very reverse of this, and even improves by hanging in the fruit room. The true Gros Maroc often produces a large percentage of strong bunchless laterals when treated liberally at the roots, and is much improved by being grown under the above conditions. I say the true Gros Maroc, as I think, with Mr. Iggulden, that many of the large bunches exhibited as Gros Maroc are Cooper's Black. Duke of Buccleuch frequently produces strong sappy laterals, showing bunches but sparingly, and is the better for restriction and poor diet, developing the well-known spot far less than when highly fed. I have found, however, that Golden Queen is a capital stock for grafting or inarching it on. Gros Colman, under what is generally called good culture, often refuses to colour its berries, the young vigorous rods also suddenly losing their leads by the foliage becoming seared. In shallow, poor borders it is much more reliable. Finally, that sweetest of all late white Grapes, Royal Vineyard, is prone to grow too strongly when highly fed, and not only gives more and better bunches in the above class of border, but also sets better, it being naturally capricious in this respect. More varieties might no doubt be added to the list.

J. CRAWFORD.

Pear Beurre de Capiaumont.—I do not think a more profitable Pear for market could be named than Beurre de Capiaumont. It succeeds equally well as a standard or bush, invariably carries a full crop, the fruit being of just the right size, its handsome form and bright russet colour adding to its value. It also keeps sound for some time after being ripe if stored in a cool, even temperature. The flavour is sweet and refreshing. I consider it a better Pear for profit than Fertility, which is often recommended. As a garden Pear it does remarkably well as a cordon, espalier, or trained wall tree, never needing root-pruning, as it bears freely in quite a young state.—N.

Peach Sea Eagle.—I have just gathered from a south-west wall the last fruits of this, one of the best of the September Peaches. Large Peaches are always in request, and so far I have never found a large fruit of the above deficient in quality. I am aware there are some very poor late Peaches, but Sea Eagle is not one of them, and anyone who studies quality in these fruits will do well to include Sea Eagle in his collection. It rarely fails to crop, and the trees make a good growth if given ample space. It is a great mistake to crowd the wood of late Peaches, as in unfavourable seasons the trees need all the sun possible to mature the fruit and the wood. I have this variety both indoors and on two aspects on open walls, and in all positions it is reliable. It keeps well into October if grown on a west wall, and is a very handsome fruit of a bright colour, and, being late, often escapes spring frosts. It was raised from that delicious early variety the Early Silver.—S. H. B.

Planting late-formed Strawberry runners.—It is the general rule to plant not only early-formed runners of vigorous sorts of Strawberries, but also those of late-formed, weaker-growing varieties in their permanent quarters in autumn. Consequently such sorts as Loxford Hall, Waterloo, and Elton Pine, which are often scantily rooted in September, take to their new quarters indifferently and do not prove profitable the following summer. I think the better way is to plant these out somewhat closely in nursery beds in a semi-shaded position, transferring them to the fruiting quarters in spring. They then have the summer before them in which to make bulky plants for free-fruiting the second year. This may appear to be a loss of time, but in reality it is not so. Even when the best of runners are secured, Waterloo seldom proves remunerative the first season when planted in autumn, but some growers have found it fruit freely on plants two and three years old,

I am not an advocate for spring planting in the case of the free-growing varieties.—J. C.

Shading Pine-apples.—Shading Pine-apples is often carried to excess. Doubtless a slight covering of thin tiffany or frigi-domo is beneficial in light, airy houses and pits, but it should only be given during the hottest hours of the day, say from 11 a.m. till 3 p.m. When the blinds are lowered immediately after breakfast and not rolled up till late in the afternoon, the plants may grow vigorously enough, but they will lack that bronzy appearance and maturity which alone qualify them for early fruiting. When not started early, but allowed to come on gradually, liberal shading is not so harmful, although in every case the thinnest material applied on the give-and-take principle is best for Pines. Roller blinds, though more expensive, are preferable to a permanent coating of whitening, as they can be lowered and raised at will. When improperly ripened plants are started early they frequently make a second growth instead of throwing up fruit.—N.

ORCHIDS.

LÆLIA AUTUMNALIS.

IN every collection where possible a compartment should be set apart for the Mexican species of *Lælia*. They are well worth the attention, and a small house primarily intended for their accommodation will be found very useful for many other beautiful and useful species. The species named above is one of the finest of this class, keeping up a display over a very long season, and comprising a large number of distinct varieties, so that from the present time until the middle of winter there will not be a dearth of flower where a representative collection of this species is grown. It is a well-known kind, introduced as far back as 1836, when it was imported from Mexico by a Mr. Taylor, a Liverpool grower. Being a widely-distributed plant in its native haunts, other collectors of trade firms soon sent it home in quantity, since when it has never been absent from the Orchid collections of this country. Immense plants are occasionally imported and offered at the sale rooms, but, showy and fine as these are, for general utility smaller specimens are better, the large masses having often a lot of bare back pseudo-bulbs, which when the plants are broken up break into growth, this increasing the number of flower-spikes and leads and being more satisfactory in every way. Its natural position is one entirely exposed to the sun, and under cultivation the plants will be found to do best in an unshaded house, or at least where the blinds are only lowered during the hottest part of the day in summer. Although the plants do not relish a high temperature caused by fire-heat, the sun shining fully on the house will bring it up to rather a high figure, and it is none the worse for this as long as air in abundance is left on. The growth made under these conditions is just what is required, but if the same heat were kept up by firing in dull weather the plants would suffer. As to receptacles, there is nothing better than trellised rafts with a thin compost of peat and Sphagnum, but where a large collection is grown a few will also have to be grown in pots on the stages. For these also the compost must be kept thin over good drainage, as a great deal of water is needed while the growth is active. It must be applied every day, in fact when very hot and dry, for the amount of sun and air allowed leads to such rapid evaporation that the compost dries directly. This is when the plants keep healthy; in a heavy or close compost and large pots they cannot thrive, but under the conditions given above they

flower freely and remain in health for a great many years. During the winter give the plants sufficient water to prevent shrivelling, and keep the atmosphere about them cool, airy, and comparatively dry. H.

Vanda multiflora.—One occasionally comes across plants of this species, which is really more of a botanical curiosity than a good garden Orchid. The colour of the flowers, which are very small, varies a little, a plant noted lately having tall, erect spikes of greenish and white blossoms. The plant does well under cultivation in a carefully shaded house kept at a stove-heat and the atmosphere well charged with moisture. The water supply to the roots must be very free as long as these are growing, but while at rest much less suffices. Pot in clean Sphagnum Moss, and treat as for large-growing Vandas generally.

Vanda Kimballiana.—Flowers of this popular species come from several correspondents, and show how useful the plant is for cutting. It is not everywhere a success, and this I think is principally owing to the great heat some cultivators still think necessary to grow it. Only the other day in a fairly large collection I saw what should have been a nice batch of it, but so weak from being kept in a moist, shady and very hot house that the flowers were very poor in size and washy in colour. The cool end of the Cattleya house is quite warm enough for it, and plenty of light should reach the plants from all sides.—H.

Oncidium trulliferum.—This uncommon species is now at its best, and the tall panicles of deep yellow flowers with their brightly coloured markings and crests are very handsome. The pseudo-bulbs are about 6 inches high, thin and compressed, of a bronzy green hue. The plant is a native of Brazil, and does best in an intermediate temperature. The pots must be of medium size only, but perfectly drained, and great care is necessary in preparing the compost owing to the large amount of water required by the plants during the growing season. While at rest a drier state of the atmosphere and less moisture at the root are necessary, or few flowers will be produced.

Houlletia odoratissima.—The flowers of this Orchid are very distinct in colour. They occur upon tall, erect spikes, the sepals and petals being bright red, the lip principally white, of very singular structure, and resembling in a botanical sense that of a *Stanhopea*. The leaves are stalked, deep green, and ribbed, occurring singly on the top of the pseudo-bulbs. *H. odoratissima* is a Colombian species, and grows naturally on the banks of streams. Under cultivation it thrives well in the coolest part of the Cattleya house, and in order to keep insects such as red spider in check the atmosphere should be as moist as possible, and overhead damping should be freely resorted to when the weather permits. The water must be applied in the form of a fine spray several times daily. It is risky to water heavily, and owing to the water settling on the compost, it is difficult to tell whether or not this is dry. The compost should consist of Sphagnum Moss well chopped, loam and peat fibre, with plenty of broken charcoal, this being firmly placed in rather large pots or pans over good drainage. Water freely while active growth is going on and while flowering, but diminish the supply a little afterwards. Shade rather heavily in hot weather, but in winter bring the plants well up to the light.

NOTES AND QUESTIONS.—ORCHIDS.

Lælio-Cattleya Eunomia (*Lælia pumila* × *Cattleya Gaskelliana*) is a remarkable hybrid, having the intermediate characteristics of both parents. The sepals and petals are pale rose, of fine form and substance, the lip wholly rich crimson-purple on the front lobe, the side lobes rose, shading to yellow, with some brown lines at the base. This beautiful hybrid was raised in Messrs. Veitch and Sons' nurseries. It was

recently exhibited at the Drill Hall, a small plant carrying a two-flowered raceme.—H. J. C.

Cattleya Wendlandiana (*C. Bowringiana* × *C. Warszewiczii*).—This is one of the finest hybrids that has been procured from *C. Bowringiana*. It has the intermediate characters of both parents in growth and in the shape of the flowers. The sepals and petals are deep rosy lilac, the lip rich rosy crimson, becoming suffused with velvety crimson in front of the yellow discs at the front of the throat. The side lobes are pale rose, with some yellow at the base. It was raised in Messrs. Veitch and Sons' Langley Nurseries, and was recently exhibited at the Drill Hall.—H. J. C.

NOTES OF THE WEEK.

Ramondia pyrenaica.—It is very rarely one sees a flower of this in the autumn season, yet one plant out of many in the rock garden at Kew has produced a few blooms. It is not a complete flowering such as is given in spring, but I never before remember seeing even a solitary bloom at this season of the year.—J.

Erigeron mucronatus.—This often flowers for a long time in the early autumn of each year, and though a Daisy to all intents and purposes, provides variety by its various coloured ray florets. The plant deserves to be grown in the rock garden or other suitable spot if only for its freedom of flowering and the little trouble it entails at any time.

Thunbergia grandiflora.—Among stove flowering climbers very few can boast of a greater freedom than this showy species. The plant, too, is of fairly easy culture. The large mauve shaded flowers, too, are very showy, and though not long-lived individually, are quickly followed by others. In this way the plant is attractive for a long season.

Kniphofia Nelsoni.—No species is more deserving general cultivation than this, with its slender stems and brilliant spikes of flowers. As a profuse flowering kind this has no equal, and the general uniform size of the stems is such that it is among the best for cutting. This the majority are not suited for by reason of the large stems and heavy heads of bloom.

Aster Amellus Riverslea.—This, I think, is the best of its race. With the exception of the colour, the growth, habit and hardiness, as well as freedom of flowering are identical with the best forms of *Aster Amellus*, the colour being an exceptionally rich and dark violet-purple. The variety originated with Mr. Prichard, of Christchurch, a few years since. Even in the smallest sprays its superiority is at once evident.—J.

Inula Roylei.—When most of the *Inulas* are past and for the time forgotten, the above appears inclined to maintain a more profuse flowering, and its large orange-coloured heads are very showy. So far as the colour is concerned there is abundance in the garden at the present time, but this species by its dwarfness is more suited to certain positions in the rock garden, which at the moment is not overdone with flowering plants of any kind.

Aster Madonna.—This Starwort, which belongs to the *Novi-Belgii* section, is beautiful enough to deserve inclusion in the gardens of those who admire these fine late-flowering plants. The flowers are large, with pale soft yellow centre and pure white ray petals. The plant is also a very profuse bloomer, and might well have a place beside *Aster John Wood* as among the finest of the white Starworts. At Summerville, Dumfries, it was in full bloom the other day.—S. ARNOTT.

Papaver rupifragum var. atlanticum.—This perennial Poppy is now giving a second crop of flowers for the year. When the first blooms were over the old stems were cut down, and now quite a number of the pleasing orange-salmon coloured flowers are open. Like all the Poppies in this garden, it produces too many self-sown seedlings if the seed of all the flowers is allowed to ripen, so that early cutting away of the seed-pods is an advantage in two ways by both reducing the number of seedlings and giving us late flowers.—S. ARNOTT.

Phloxes Sesostriis and Cameron.—In looking over the plants in the garden of Colonel Blackett at Arbigland, Dumfries, the other day I was struck with the large size, good form, and

deep colour of *Phlox Sesostris*. The dry weather had told upon the growth of the plant, but it is seldom that one sees a finer *Phlox* than this, numerous as are the dark-coloured varieties. With smaller flowers, but of a beautiful shade of light pink, was *Cameron*, a *Phlox* which I cannot recollect to have seen before, although the name is familiar to me.—S. ARNOTT.

A new form of *Galanthus Elwesi*.—From Mr. Edward Whittall, of Smyrna, have come this year bulbs of a newly-discovered form of *Elwes' Snowdrop*. Mr. Whittall says this is the largest and finest form of *G. Elwesi* he has yet seen, so that those of us who have received bulbs will eagerly look forward to their flowering. As with the fine *G. ochrospeilus*, it is improbable that this new *Snowdrop* will show its true character for a year or two. If finer than *G. ochrospeilus* it will indeed be an acquisition, as such forms of *G. Elwesi* are, to my mind, coarse and unrefined.—S. ARNOTT.

***Helianthus orgyalis*.**—Among the perennial Sunflowers we have none to equal this for graceful habit and for effect in the garden. Its long narrow leaves, drooping and gracefully disposed, make it a striking plant in the border. The disappointing feature of this Sunflower is, however, its late-flowering habit. In cold localities it never blooms, and even in the south-west of Scotland it is usually cut down by frost before a bloom opens. It is thus of little value in such districts except for its effect as a fine-foliaged plant. For this purpose it is of considerable value.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Carnations from Exmouth.—I herewith send you a few *Carnation* blooms, all of which, with the exception of *Flora Hill*, are of my own raising. *Flora Hill* is considered the best white in America. You will notice that all, with one exception, have sound calyces and many are highly perfumed. They are thoroughly perpetual in blooming and all of good habit.—W. J. GODFREY.

* A very fine set of flowers in white, scarlet, pink and yellow. The best are *Lady Gertrude Rolle*, light pink; *Exmouth Gem*, a sweetly-scented flower of a salmon-pink shade; *Flora Hill* and *Bessie Godfrey*, white, and *Mrs. Herbert Stewart*, rose.—ED.

Plumbago Larpentæ is just now one of the most beautiful and valuable of all rock plants, growing with great freedom and flowering abundantly also in any good position. It is not essentially a rock garden plant, as it is sufficiently vigorous, even if deciduous, to take care of itself in the open border. But its dwarfness, its freedom, and its fine colour when in flower appear to fit it for the rock garden. The plant is not in the least particular as to soil, and will grow quite freely in good ground of almost any character. To see it at its best, however, the plant should be grown into good-sized tufts, when the foliage, or at least some portion, will assume a bronzy hue that is distinctly welcome.

Flowers from Liverpool.—I am sending you a few blooms of *Carnations*. They were planted out last October in a sunny position in the flower garden in some good rich soil freely mixed with old mortar rubbish. Layered every year, much finer blooms are produced. A good few of this summer's layers throw up a succession of bloom till the frosts cut them down. The *Roses* are grown in a bed in the flower garden. These were planted at the end of March. *Niphetos* grows on the roof of the greenhouse. I have been cutting a few blooms all the summer.—J. R. SKITT, *Liverpool*.

* A very useful lot of flowers. The blooms of *Niphetos* are excellent.—ED.

Flame Flowers from Christchurch.—Mr. M. Prichard, Riverslea Nursery, Christchurch, sends us some handsome spikes of *Flame Flowers*, including *Kniphofia Triumph*, a cross between *K. aloides nobilis* and *K. comosa*. This reaches a height of 5 feet, the spikes of bloom just over 9 inches long, of an orange-yellow colour. The characteristics of the male parent have been freely

developed, the spike sent having many smaller branches, which produce smaller spikes. *K. citrina* is a rich yellow variety, the spikes rather small. *K. Nelsoni*, also sent, is one of the richest coloured in the family, flower-stalks very slender. *K. corallina* is also very distinct. *Aster Amellus Riverslea*, raised by Mr. Prichard, is the richest coloured of this section we have seen, an intense dark purple, and very effective in a mass.

***Pratia angulata*.**—This charming little New Zealand alpine was in flower in the garden of Mr. James Lotimer, Nithbank, in the last days of September. In this garden *P. angulata*, which is well worth the attention of growers of alpine, blooms for a long time, and I have not seen it grown better anywhere. Earlier in the season it is, as may be expected, even prettier than in late autumn, and forms beautiful little mounds almost covered with the pleasing white flowers. This plant does not appear to succeed in very dry soil, and I have experienced much difficulty in keeping it. At Nithbank it seems to do best on the level at the foot of a south-west wall, where it is, although in the sun, not too dry. *P. angulata* is also known as *Lobelia littoralis*, but the former name is that adopted in the Kew hand-list. The plant is not considered hardy everywhere in the British Isles, but stands our winters in the south-west of Scotland.—S. ARNOTT.

—Where a dense prostrate carpet of green is desired, this singular little plant will furnish it as quickly as most things, and is also for a long time freely dotted with its white flowers. The most needful thing in its culture is a rather shady spot and somewhat moist, peaty soil.

***Kniphofia modesta*.**—Seen in small plants at the time of flowering, the specific name would appear well chosen and quite applicable, though one is inclined rather to question it when seeing a plant that, if bearing small individual flowers and less columnar in spike than in many of its fellows, attains to a height of 7 feet or 8 feet. The tuft of growth, too, is by no means meagre or even frail, and the name has reference, doubtless, to the flower-spike and flowers alone. Modest these undoubtedly are if we compare them with the vivid colouring and giant heads of some kinds, and singularly pretty as well as distinct is the creamy white shade, which is almost wax-like in appearance. Quite one half of the full length of spike—and this appears characteristic in large and small examples alike—is covered with flowers, singularly short for a member of this race, and reflexed in a way that suggests individually the flowers of a white *Bluebell*. All this is very distinct, and though the species is not quite hardy, it may with advantage be employed among the hardiest of the race in the hope of securing a new break among this well-known class of plants. Many of the existing kinds are too much alike, at least for garden effect, therefore a decided break-away may be of some value. The above species is flowering now at Kew.

A "first-class" certificate.—At the Drill Hall meeting of the Royal Horticultural Society on Tuesday, September 20, a first-class certificate was awarded to a shrub called *Ligustrum Walkeri*. It would be interesting to know why. I put this question to an experienced member of the floral committee, who suggested that it was because no one on the committee knew what this *Privet* was. This was probably gentle sarcasm, but I doubt if a better or truer reason could have been given. *Ligustrum Walkeri* is a very ordinary looking shrub that is not hardy, has no beauty of flower, and as an ornamental plant is about on a par with the common hedge *Privet*. It cannot be grown out of doors, and who would fill his greenhouse with such weedy rubbish? It grows on the mountains of Ceylon and on the Neilgherry Hills, and seems to occupy in those regions pretty much the same place that the common *Privet* fills here. When one remembers the plants that the floral committee has passed over and the repeated appeals of the council for greater discrimination and restraint in the awards to plants, it seems like a wanton disregard not only of the council's repre-

sentations, but even of the society's credit, to give a first-class certificate to an uninteresting and comparatively worthless plant like this *Privet*. One does not expect the floral committee to be infallible, but it might, all the same, reasonably be expected to see (as the council does) how important it is that the honours the society distributes should not be cheapened.—B.

The great drought.—The excessive drought is becoming alarming here, as elsewhere. Ponds that have never been known to fail before are now quite dry and hard at the bottom, and water is extremely difficult to obtain. The state of winter crops seen as one goes about the country is quite distressing, and I noticed recently that the market gardens by the railway between Bishops Cleeve and London were in a deplorable condition. The outlook for winter vegetables is very bad, and prices must rule high if a living is to be got out of the sorry remnant which will be available for use. Even where green stuffs, Turnips, &c., are still alive the quality will be very poor, as the Brassicas are blue and swarming with caterpillars, and Turnips already woody. Deep culture is the only means of preventing a breakdown in such seasons as this, and those who advocate and have the means of carrying this out have good reason now to congratulate themselves on the policy. As I write (October 5) a slight change has taken place in the weather; a faint drizzling rain is falling, but the barometer is still high and steady.—J. C. TALLACK, *Livermere Park Gardens, Bury St. Edmunds*.

Notes from Baden-Baden.—During July and August a small lot of a half-shrubby Campanula, *Adenophora Potanini*, was very showy. It is a native of Central Asia and perfectly hardy. From a permanent rootstock come four to six shoots, 1 foot to 2½ feet high and gracefully arching, bearing numerous pale blue bells, about six to ten on a shoot. It is a graceful plant. Among *Colchicums*, *C. giganteum* is quite as large-flowered as *Bornmulleri*, but the former is deeper in colour. *Liatris graminifolia* flowering now (October 1) is perhaps the best. It is not so tall and weedy as some of the other species, but the colour is very pure—a bright deep purple. The white variety is lovely, but as yet it is very rare. *Salvia azurea grandiflora* is also a desirable garden plant. It grows 3 feet to 4 feet high, and has numerous terminal-whorled spikes of bright sky-blue flowers. I have succeeded in obtaining a large lot of *Dianthus callizonus*, which seems now quite safe and growing. It is one of the greatest beauties among alpine, but has peculiar wants in cultivation, which must be attended to. It wants artificial shade and syringing during the hot summer days.—MAX LEICHTLIN, *Baden-Baden*.

Belladonna Lilies at Kew.—Among the hardy flowering bulbs at Kew at the present moment, none is so effective as this lovely autumn *Amaryllid*. Scores of umbels of the handsome flowers are now in beauty. Some of the forms, and there are many which suggest the probability of a free-seeding character in the native haunts of the plant, are beautiful. There are scores of spikes just emerging from the soil that, if weather permits, will make gay the same spot for weeks to come. In this way, where the plant is freely cultivated, there is scarcely any limit to its profuseness of flowering. But beautiful as all these appear in the narrow border outside the Orchid house in these gardens, their beauty is easily eclipsed by a giant of the same race growing in a frame beside the economic house. Here may be seen an example upwards of 3 feet high, bold and massive, and carrying a giant head of bloom, finely proportioned withal, and which is composed of some thirty handsome, richly-coloured flowers. Individually, these are rather shorter in the trumpet than some, the rich rosy purple-carmine flowers very telling. So handsome a kind is well worth the time and trouble that fertilising and seed-saving would involve. The colour is very rich and the flowers of greater substance than usual.

STOVE AND GREENHOUSE.

LAPAGERIAS.

THE Lapagerias here are planted in stone tanks 4 feet by 18 inches and 3 feet deep, with about 12 inches of rock stones as drainage. The com-

be allowed to become dry at the roots. On one of the shoots shown there were 105 blooms, and on the other seventy. W. A. MILNER.

Totley Hall, Sheffield.

Pelargonium Souvenir de Prince Albert.—I have tried a great many of the newer varieties

May. The colour is very pleasing and has none of the disagreeable purple tint which looks so undecided under artificial light.—H. R.

Campanula isophylla alba.—The beauty of this well-known plant was brought home to me very forcibly the other day, when I saw several baskets full of it in a dwelling house window in Bury St. Edmunds. They were excellent examples of window plant culture, large, full of flower, the pure white as usual showing very finely against the deep green foliage. It is strange that this beautiful plant is not more often met with in large gardens. Presumably it is so common as a window plant in town and country that gardeners think it beneath their notice, but really it would be difficult to name anything prettier. The simplest culture suits it and it never fails to flower.—H.

Thunbergia grandiflora.—This is essentially a stove plant, and for a lofty structure it is a really grand climber, but it is only under such conditions that it will flower in a satisfactory manner, as if cramped within narrow limits or heavily shaded, its large showy blossoms may be sought for in vain. The leaves of this species are each about 6 inches long and hastate in shape, while the flowers, which are 4 inches across, are pale blue lined with a deeper tint, while the interior of the throat is almost white. This Thunbergia is a very common plant in India, being often met with festooning trees and in many other different situations. It needs little if any shading; indeed, it is just the thing to clothe the roof of a lofty structure and thus provide a certain amount of shade for the plants underneath. There is a white-flowered variety of this (*T. grandiflora alba*) which is, except in the colour of its blossoms, a counterpart of the type. A pleasing effect is produced by growing the two in conjunction. Nearly allied to the preceding is *T. laurifolia* or *Harrisi*, as it is often called. The foliage is quite distinct, being, as suggested by its specific name, like that of a Laurel, while the flowers are more of a decided bluish tinge.—H. P.

Ficus falcata.—This is a welcome addition to the creeping forms of *Ficus*, of which the small *F. repens* and the still tinier *minima* have been long grown in our gardens, and for covering damp walls, clothing the surface of large pots, draping the edges of the stage, or for purposes such as this they have few, if any, equals. The newer form, *falcata*, is of just the same style of growth, but the shape of the leaf is altogether different. It is about an inch long and of a deep green colour. The most prominent feature is its peculiarly curved shape, from whence the name of *falcata* is derived. On a damp wall this *Ficus* will grow quite as rapidly as *F. repens*, with which it may be associated. The whole of these above mentioned are particularly valuable from the fact that they will thrive even in heavily shaded positions. Among the other climbing kinds of *Ficus* somewhat more vigorous in growth than *F. repens* is *F. radicans*, whose leaves are each from 2 inches to 3 inches long and an inch wide. They are heart-shaped at the base, but taper to a point. Of this there is a variegated variety whose leaves are deeply, but irregularly edged with white, sometimes to such an extent that the green portion is very small indeed.—H. P.

Hæmanthus coccineus.—Several species of *Hæmanthus* are very beautiful when in bloom, but some of them are difficult to keep permanently in health under cultivation. This cannot, however, be said of *H. coccineus*, which once it has attained flowering size can be depended upon to bloom year after year provided its requirements are attended to. It is a deciduous species, but the period of rest is July and August, and not during the winter months. The leaves are just now pushing up, and when developed they are both long and broad and of a thick fleshy texture. The plants should be kept in a light, sunny greenhouse and receive a moderate amount of water, while occasional doses of liquid manure will also be of great service, particularly if the pots are full of roots. Then about midsummer



Sprays of *Lapageria alba* from flowers sent by Mr. W. A. Milner, Totley Hall, Sheffield.

post I use is three parts bog-peat, broken roughly, the remaining part being made up of leaf-soil, turfy loam, coarse sand, half-inch charcoal and stone chippings. Lapagerias require an immense amount of water during the growing season, and even in winter they ought never to

of Ivy-leaved Pelargoniums, but this old kind is still my best, and I do not know a more useful one. From cuttings taken in early spring I have now good plants in 6-inch pots that are covered with the fine handsome trusses, and these will not be without flower from now until next

the leaves die off, and as soon as they show signs of turning yellow the water supply must be diminished, and finally stopped altogether, the pots meanwhile being kept in full sunshine. Then about the end of August the flower-buds will commence to show, when the plants should be thoroughly watered, and after that kept moderately moist. A few waterings with liquid manure will assist the development of the blossoms. The flower-heads of this species, which reach a height of about a foot or perhaps a little more, are bright red in colour. Simultaneously with the production of the flower-buds the new leaves also make their appearance.—H. P.

Specimen Cockscombs.—At a flower show held at Sandy, Bedfordshire, in August last, some remarkably fine Cockscombs were shown by Mr. T. Lockie, The Gardens, Diddington Hall, Huntingdon. It is customary at many country flower shows to have a class for Cockscombs, but they are generally somewhat poor examples. At Sandy Mr. Lockie staged four specimens of marvellous size. Opinions were hazarded as to the size of their perfect combs. When measured it was found that the length of combs from end to end was 26 inches and the breadth of the combs 16 inches. Mr. Lockie informed me that the seed of these magnificent Cockscombs was sown on February 28 in light soil and raised on a mild hotbed with a temperature of 70°. A Melon frame is generally employed for raising plants. As soon as the seedlings were large enough to handle the strongest of them were potted singly into small pots kept near the glass and repotted as soon as the pots became filled with roots. The plants are not allowed to become pot-bound, to suffer from want of water, or become drawn from closeness of atmosphere. They are syringed every evening with tepid soft water, which serves to keep red spider in check, the crested *Celosia* being subject to its attacks. As soon as the combs begin to show themselves, and a selection of the most promising and best coloured can be made, the plants are transferred to their flowering pots, which are 7 inches to 8 inches in diameter, and potted in a compost of good loam, a little manure from a Mushroom bed, leaf-soil, a good sprinkling of coarse sand, with some bone-meal added, the drainage of the pots being provided by the use of quarter-inch broken bones.—R. D.

FLOWER GARDEN.

MUTISIA DECURRENS.

THERE is perhaps no more beautiful climbing plant in the whole of the great composite order than this, and few generally less understood or successfully cultivated in British gardens. Perhaps the chief difficulty of all, and especially would-be cultivators of the plant, is the difficulty experienced in getting really good established plants to begin with. If such were more generally procurable the plant might with more frequency be found flowering in the best gardens in this country. One of the mistakes that has been made is that of planting in a warm sunny position, or even going to greater extremes still in the same direction. In all these, however, failure must sooner or later ensue. What the plant really needs in this respect is shade and moisture, the former in a measure that requires some qualification. For example, it is not so essential that the stems and growth generally shall be in the shade, but it is absolutely essential that the roots may be so protected that a cool and uniformly moist rooting medium be guaranteed. In this respect it is on a par with some Lilies that delight to send their heads of blossoms into the full light and warmth of day, yet prefer a cool and moist condition at the root. For this reason the *Rhododendron* bank has been frequently planted with Lilies, and a good measure of success the result. There is

no more fitting place in the garden for this lovely *Mutisia*, particularly where the *Rhododendrons* are well tended in the matter of summer watering, for this would exactly suit the growing season of the above plant, and enable it to spread itself over the heads of the shrubs, and in flower form a most pleasing picture. There is no fear of the growth being too abundant, as it is not in the nature of *Mutisias* to produce more than a few shoots each year. Yet these few shoots when strong produce a really good complement of striking blossoms, enough to satisfy the majority of those who succeed in growing the plant at all.

One of the finest plants I have seen near London will in some degree prove that the above position is not wholly essential to success. This plant was grown in the Pine-apple Nurseries, Maida Vale, scarcely one and a half miles from the Marble Arch, the position being a shady one from about 11.30 a.m. The plant was trained to a wall and planted out in one of many narrow borders there, beside the green-houses. Here it grew several feet high and produced many of the rich orange flower-heads that render it so striking. The ray florets are of considerable length till the time for recurring arrives, when they form themselves into an elegant as well as graceful flower. This plant may have been said to be a success, and for a London garden especially so. It was planted in peat and about a third loam, with sand in plenty, and was watered freely in dry weather. Another proof of the success of this example was the somewhat free manner in which suckers were produced, these being secured for stock. I believe this plant would not resent free supplies of moisture in summer, provided the drainage is perfect, which is more or less essential. Perhaps one of the best ways of making this handsome plant more generally known would be by an endeavour to obtain fresh seeds from the natural habitat of the plant, an item which our leading botanic gardens, through their directors, should be able to accomplish at will. So good a plant, too, is also worthy of special care, and seeds distributed to leading British nurserymen and others would doubtless receive the attention they deserve.

E. J.

Aster Amellus bessarabicus.—This is one of the few hardy flowers that do not bear the impress of the protracted heat and drought. Whilst many things have a dried-up and very miserable appearance, this *Starwort* is flowering as freely and looks as fresh as if the plants had not been subjected to such a severe trial during the last few weeks. A group of this *Starwort* planted some five years ago is a mass of bloom, although no manure or top-dressing of any kind has been applied from the time of planting. Hardy plants of such an enduring nature are very precious, especially if they come into flower at that time of year when in a general way tender things are liable to be injured by frost and rain. This must be a fine bee plant, for when in bloom the flowers are smothered with them and other insects. On two plants I counted four black admirals, six tortoise-shell, and one peacock butterflies, half-a-dozen species of humble bee, some of which I had never before seen, besides countless flies and bees innumerable.—BYFLEET.

Hardy Cyclamens.—Colonies of these in partly shady situations have a bright appearance at Wisley. They are grown on mounds considerably above the ground-level, so that good drainage is assured. The pure white variety of *Cyclamen hederifolium* is a dainty little flower, exquisite in form and wonderfully pure in colour, a flower that does not suffer by comparison with the choicest productions of our glasshouses. It was worthy of note that in the full sun and on a dry bank there was not a sign of life, and I shall be curious to

know how these plants behave by-and-by. I fancy they will only begin to bloom towards November, and that about February, weather permitting, they will be making a display. The charming flowers are followed by a beautiful leafage, which has wonderful powers of endurance. That leaves of such a succulent nature should be able to withstand the severe frosts of our winter is little short of marvellous. It is this power of resistance to inclement weather that renders them so precious for the outdoor garden in winter.—J. C., *Byfleet*.

LILIES.

THE statement made with respect to *L. Henryi* that in all but colour it is a counterpart of the old *L. speciosum* is not borne out by the appearance of plants in bloom at Wisley. The flowers of the two species, it is true, resemble each other in form and are of about the same dimensions, but in habit of growth the new-comer is much taller and the leaves are considerably smaller. It is, however, a fine and showy species, the orange blooms being very bright and effective, and will undoubtedly receive a hearty welcome from lovers of the genus. The stiff, wiry-looking stems and deep green leathery foliage would seem to indicate that it is possessed of a vigorous constitution. When it becomes more plentiful and can be planted in groups of a dozen or more bulbs it will have a fine appearance, and the fact of its blooming at the close of the summer naturally enhances its value. It certainly affords a fine contrast to *L. auratum* and *L. speciosum*, with which it should be associated. The value of the finer forms of *L. speciosum* for outdoor blooming is well illustrated at Oakwood just now, and one sees how superior the true Japanese cruentum, which Mr. Wilson considers to be identical with *Melpomene*, is to the Dutch varieties commonly grown in this country. Some of the flowers are very finely coloured, and I was surprised to note how well the plants had withstood the protracted heat and drought. It has been found desirable to move the bulbs of *L. auratum*, and one does not this year see flower-stems 10 feet high, with blooms proportionately numerous. Hundred of bulbs have been set out in newly-prepared beds, and although the plants are much dwarfed than one has been accustomed to see them at Wisley, they look remarkably well, the strongest bearing flowers as good as one generally sees on old-established plants. Some of the scarcer varieties, such as *platypetalum*, are flowering finely, but Mr. Wilson considers that a good form of the type is quite as good as these named expensive varieties. The fact is that the old *L. auratum* in its best form is so fine that there seems to be little or no possibility of improving it.

J. C. B.

Lobelia cardinalis.—No doubt a long time will elapse before the general public will know what the above plant really is, the common practice being to call every scarlet *Lobelia* by that name. The object of this note is to point out how exceedingly hardy it is. Two or three years ago I had a large bed of this in the open ground. The winter being a very dry one, and the position of the bed dry, every plant perished. At the same time three plants in pots were standing in 1 inch or 2 inches of water in a shallow tank. When the frost came these were gradually raised up out of the pots on columns of ice, into which they returned when the thaw came, and they were the only plants that survived, looking at the end of the winter as fresh as anything could look. Coming as they do from the cold Canadian bogs, all this was to be expected, and the moral is—plant this kind in the wettest swamp you have, and it will light up the spot with a red glow such as no other plant is capable of. All the syphilitica forms will thrive in the same situation.—T. SMITH, *Newry*.

Starworts naturalised.—Very few hardy perennials can be trusted to hold their own if left to contend unaided with our natural vegetation.

The stronger-habited forms of Starwort, however, are not only able to live under such conditions, but seem able to increase in bulk under treatment that would be fatal to many hardy flowers. There is at Oakwood a piece of ground on which the natural herbage has been allowed to have its own way. From a row of established plants hard by seeds have distributed themselves, and it is



Bocconia cordata.

curious to see how well the little seedlings have come along among some of the coarsest grasses that inhabit the British Isles, have at length pushed up and are blooming with delightful irregularity over an acre or more of ground. To my mind these miniature plants blooming among the grass offer a much more pleasing picture than the big lumpy specimens commonly seen in cultivation. These Starworts are in the true sense of the word naturalised, and if the ground is not disturbed their progeny will in all probability be found growing and blooming in a hundred years' time.—B.

Spanish Iris.—That the beautiful forms of Iris Niphium have taken a deep hold upon the flower-loving public there can be no doubt. Earlier to bloom than their relatives, the English Irises, they exhibit in addition a great variety of colour, such as beautiful shades of purple, blue, violet, and also delightful combinations of these, bronze, yellow, white, &c. As the bulbs are now being largely imported into this country, the time is favourable to press upon the attention of those who love their gardens the claims of the Spanish Iris. The lists of varieties receive accessions every year, because the Dutch florists are active in raising seedlings, and though it must not be supposed that every new introduction marks a real advance, yet there is a gain in variety, while many lovers of the flower delight in cultivating new varieties, as it is always interesting to watch the expanding blossoms of some new aspirant to favour. In planting it should be remembered that the Spanish Iris is impatient of stagnant moisture about its roots in autumn and winter. My neighbour grows his in a free and somewhat stony ground, where there is ample drainage, but he manures on the surface with rotten manure and leaf-mould, and when the plants are coming into bloom a little weak manure water is given twice a week. He grows the Irises among his dwarf Roses, with the result that they afford shelter from rough winds, as the stalks are brittle and

soon damaged. But it is a sunny position also, for this type of Iris appears to revel in sunshine. Plant as soon as the bulbs are received, and, having planted, leave them undisturbed. Top-dressings keep a nourishing soil about the bulbs, but if a weakly growth should indicate that the soil has become exhausted, then a new plantation should be made so as to secure renewed vigour and fineness of bloom.—R. D.

BOCCONIAS.

THE genus *Bocconia*, although consisting at the present day of five species, is only represented in gardens by two, namely, *Bocconia cordata* (Willd.), a very old plant, and *Bocconia microcarpa*, of quite recent introduction. The genus is founded on *B. frutescens*, of Mexican origin, whose introduction dates back to 1739. The stems of the plant are about 5 feet in height. As it needs, in winter at least, the temperature of the greenhouse, it is rarely to be found in cultivation, if it even exists at the present day.

BOCCONIA CORDATA is very well known and justly esteemed. It is a handsome plant some 6 feet or 7 feet in height. The best effect is obtained from isolated plants on the lawn and in large beds. It is a native of China, and was introduced by Sir George Stanton in 1795. In 1866, M. Ed. André described in the *Revue Horticole*, under the name of *Macleya yedoensis*, a plant of this race, of unknown origin, which was then well known in gardens as *M. japonica* and *M. yedoensis*, and was specially characterised by the absence of petals. This plant, which seems not to have continued in cultivation, may be regarded as a variety of *Bocconia cordata*. Within the last year or two M. Maurice de Vilmorin received from China another variety with flowers set with rose-coloured petals, but this has not yet become common. Both plants will be found described in most gardening books, and notably in the *Bon Jardinier*, the first under name *Macleya cordata* (R. Br.), the second as *Bocconia frutescens* (Linn.). The species *Macleya*, founded by Robert Brown, being no longer admitted by modern botanists, both plants are held to be species of *Bocconia*.

B. FERRUGINEA (Roetzl.) has never been introduced into cultivation; and if the contrary is the case with *B. integrifolia* (Bonpl. and Kauth.) it has, nevertheless, remained so rare that only one work we know mentions it, and that very briefly. The fifth and last species,

B. MICROCARPA (Maxim.), was also obtained in China, in Eastern Se Tchuen, by the Abbé Farges, and was received by M. Maurice de Vilmorin some years since. Its stems are slightly unequal, the stature the same, and the form of its foliage does not materially differ from that of *B. cordata*, though with a much more glaucous and even bluish hue, and very dusty in the young shoots. Its inflorescences are borne in panicles, which are larger, more branching, and its berries are much smaller. *B. microcarpa* deserves a place before *B. cordata*, the only one in cultivation up to now. In addition to raising by seed, which should be done in the spring in pots in the open; it can be readily propagated by division, and if need be by division of the roots. Moreover it spreads enormously.—E. MOTTET, in *Revue Horticole*.

Physalis Franchetti.—This is one of the most striking and ornamental plants that have been added to the hardy plant garden for a long time, its value lying not merely in the fact of increased size in the richly-coloured calyces, but in its greater all-round attractiveness. One of the weak points of the old Winter Cherry (*P. Alkekengi*) is that at the moment the calyces attain perfection it is likely to completely lose its foliage, which it does in any case with the first touch of autumn frost, and while pretty enough in a group in the rock garden or other

place, produces a rather bare appearance from this cause. The above species, however, while being decidedly more ornamental in growth during summer, also attains a vigour and freedom of growth that go a long way to establish it as a first-class plant. In habit the plant is all one could desire, while in freedom of flowering and fruiting the plant is first-rate. Where large effective groups are required, the gardener will find this a most valuable and easily-grown perennial.

THE HYBRID CLEMATISES.

(Continued from page 241.)

3.—FLORIDEÆ.

THE hybrids of *C. florida* are never double—at least I have never seen a double one with the exception of *C. bicolor*. The green-white flower of *C. florida alba plena* (Indian Atragene) is not a double flower in the proper sense of the term. Of the three Clematises introduced from Japan by Siebold only *C. florida simplex* is the true specific type, the other two, *C. florida alba plena* (*Atragene indica*) and *C. florida bicolor*, being to all appearance rather forms or varieties of the type. It may be supposed that the hybrids of *C. florida* are very rare, and, in fact, in European gardens I only know of one, and that one obtained from seed of *C. viticella*. The plant in its carriage, its distinct foliage, its inflorescence, and flowers formed of six sepals presents all the characteristics of relationship with *C. florida simplex*, and ought rather to be called *C. florida simplex* than *C. viticella venosa*. It is one of the handsomest of hybrids, and the flowers, which are of fair size, are of a superb violet-purple, with veins of a brighter tint. The inflorescence is



Bocconia microcarpa.

axillary on single flower peduncles. I find in catalogues two varieties of *C. florida venosa*; one with larger flowers of a bright mauve, veined with white (*C. florida venosa grandiflora*, Lem.); the other with flowers perfect in

form, the edges of the sepals somewhat undulating and fimbriate (*C. florida venosa* violacea, Lem.). Although habitually sterile, *C. florida venosa* has been known to accidentally ripen seed, from which have resulted two new plants, *C. f. atro-violacea*, a very deep violet flower formed of five to six sepals, and *C. Viticella alba nova*. This latter Clematis, of which I have already spoken when dealing with the hybrids of *C. Viticella*, appears to me to have with *C. Iris* and *C. Mme. Moser* undoubted relationship with the florideæ.

4.—AZUREÆ.

This section is assuredly the one best adapted for hybridisation. Their short spring bloom lasting only through May and June allows of the perfect and early maturity of their feathery, waving, and spheroidal carpels. Japan, the country of their origin, has given us a sample of their cultivation in sending us at the same time as the species (*C. azurea*, Hort.) a certain number of single and double varieties. Among these a quite distinct form is *C. Sophia* with large notched sepals. From a lilac or azure purple the flowers pass to white, with sometimes white and sometimes purple stamens. Here I must correct an error which has found a place in all catalogues. The double or semi-double-flowered hybrid Clematises do not spring from the florideæ, but are invariably issue of the azureæ, in most cases producing seed, notably *C. Fortunei*, the semi-double flowers of which ripen their seed. The flowers are large, single, formed of six to eight sepals set on long axillary peduncles on the old wood. Spring is the time of bloom. But there are many other large-flowered hybrids, like *C. gigantea*, which preserve the inflorescence and the one-flowered peduncles of the azureæ; yet in spite of this, their downy buds, rosaceous corolla of six or eight sepals, and the continuous bloom have caused them to be classed as hybrids of *C. lanuginosa*. The hybrids of the azureæ are so numerous that I can only give here a very incomplete list.

C. AZUREA AMALIA, LOUISA, AND HELENA were for the most part brought direct from Japan, where they are cultivated, with *C. Sophia*, *Sophia flore-pleno*, and *monstruosa*. To these I have to add

C. LOUISA FLORE-PLENO (Simon Louis), with white, lilac-edged flowers.

C. MARIA (Simon Louis).—Flowers dark blue, with brown anthers.

C. A. VIOLACEA AND *C. A. ATRO-PURPUREA* are both varieties of *C. a. Helena*, obtained by Theodore Spaë, of Ghent (Belg. Hort., 1864).

The following varieties are often met with :—*C. WEITCH*.—Flowers double, of fair size and bright blue. Introduced direct from Japan.

C. COUNTESS OF LOVELACE.—Double, blue-violet flower, the sepals regular and imbricated. In the second bloom the flowers are single, as happens often in the case of other double hybrids.

C. DUCHESS OF EDINBURGH (Jackman).—Double, white and strongly imbricated flowers, sweet scented, like those of *C. Fortunei*. It flowered for the first time in 1874.

C. LUCIE LEMOINE (Lem.).—A white, semi-double flower, ripening its seed well. It is one of the oldest and best known double kinds.

C. EXCELSIOR (Cripps).—Large semi-double flower, of a handsome blue colour, resembling Countess of Lovelace.

C. FAIR ROSAMOND (Jackman).—Early bloomer, the flowers large and rosy white.

C. LOUIS VAN HOUTTE.—Spring blooming, rosy white, semi-double flowers.

C. MME. MELINE (Christen).—Pure white, double and regularly imbricated flowers.

C. MARIE LOUISE LE BELE (Dr. le B.).—Large white flowers, each 8 inches to 10 inches wide. This is very free flowering.

C. JEANNE D'ARC (Dauvesse).—Large rosy white flowers.

C. AURELIANA (Dauvesse).—Large mauve-violet or red flower.

C. LADY CAROLINE NEVILL.—Early bloomer; colour pale blue with red veins.

C. RENÉ ALLÈGRET.—Double or semi-double, deep blue flower.

C. REGINA (Weitch).—Mauve.

C. LILACINA PLENA (Lem.).—Lilac, medium-sized, very double flowers.

C. INSIGNIS.—Very early, bloom lilac-violet, the nearest allied to the species (*azurea*, Hort.).

C. A. HYBRIDA ANDEGAVENTSIS.—A handsome, vigorous hybrid, the result of crossing *C. azurea* and *C. lanuginosa*, which I have cultivated for twenty years. It came to me from Angers, where it bore the name of *lanuginosa foncé*. Although the buds are woolly, yet the pointed, oval, bright smooth leaves, and the flowers of a handsome dark blue, changing to a lighter shade, with their six-fluted sepals and their purple stamens, mark it as belonging to the section of the azureæ.

5.—LANUGINOSÆ.

In this last section I place those hybrids among the race which possess the largest flowers, the colour being light blue, mauve, carnation or white, and the sepals broad and recurved. The inflorescence is in bouquets, but frequently also on single-flowered peduncles. These often flower from June to September. The flowers are seldom double. The leaves are not as a rule woolly as in the true *lanuginosæ*, but the buds are frequently more or less so, when the leaves are almost smooth.

C. LANUGINOSA PERFECTA (Frœbel), a cross between *lanuginosa* and *hybrida splendida*, has six broad violet-mauve sepals.

C. LANUGINOSA SUPERBA.—Deep violet.

C. LANUGINOSA CANDIDA.—White and a continuous bloomer.

C. LANUGINOSA NIVEA (Lem.).—Pure white.

C. LAWSONIANA (And. Henry).—Lavender-blue, a spring bloomer, sepals as in *C. azurea*.

C. OTTO FRÆBEL (Frœbel).—Large rosy white flower.

C. MME. EMILE SORBET (Paillet).—Large buds, sepals numerous, of a violet-lilac colour, changing to bright lilac. 1878.

C. DUCHESSE DE CAMBACÈRES (Paillet).—Flowers about 8 inches across; colour sky-blue.

C. GIGANTEA.—Rosy white, changing to pure white. Flower very large, formed of eight to ten sepals.

C. VILLE DE PARIS (Christen).—A cross between *Fair Rosamond* and *lanuginosa*. Very large flowers, formed of six to eight petals, white, changing to a fine rose colour.

C. LA FRANCE.—Obtained about the year 1886 by M. Gegu, of Angers, from *C. lanuginosa* × *C. Jackmani*. The buds are woolly, although the leaves are smooth. Flowers deep cobalt-blue and lozenge-shaped, sepals pointed with waving edges. A very handsome hybrid.

C. DOCTEUR BLANCHET (Boisselot).—A handsome rose-lilac.

C. REINE DES BLEUES (Boisselot).—A hybrid between *C. lanuginosa* and *C. Jackmani*.

C. BELISAIRE (Lem.).—A large flower of a lilac colour, changing to white.

C. EUGÈNE DELATTRE (Christen).—Lavender-blue, buds woolly.

C. MME. BOSELLI (Christen).—Flowers large, of a mauve shade.

C. MME. THIBAUT.—Inflorescence as in *C. lanuginosa*. Very abundant on bright blue or lilac flowers. This points to a relationship with the *C. Viticella*.

C. LADY BOVILL.—Bright or sky-blue. It is in bloom during July and August.

C. THE PRESIDENT.—A rich violet-blue-purple flower.

This incomplete list brings to a close what I have to say about hybrids or large-flowered Clematises. My essential aim was their classification in natural groups, based upon the botanic

characters of the different sections formed by the species.

A PARASITIC PLAGUE.

Unfortunately, these large-flowered hybrids are subject to the attacks of a mysterious disease, which is extending its ravages yearly, and against which there has been no contending so far. It is plainly a case of a new cryptogamic parasite, which, at any day, may bring about the sudden death of a plant, and not infrequently the destruction of plants in full flower and in the enjoyment of, to all appearance, the finest health. It is to be hoped that, with better knowledge of this fungus, it may be attacked with success and its ravages among Clematises put an end to.

CULTIVATION.

Generally speaking, the Clematises are not fastidious as to soil. It is none the less true that they prefer a well-drained soil and one that is rich in vegetable and leaf-mould. Some, like the *Atragenes* and *lanuginosæ*, prefer a peat soil. But what is especially needed is a good aspect, and air and sun such as they find on bushes, trellises, and arbours. Cultivation on strong and moderately tall stakes is the simplest and most practicable, but it is not so artistic as the freedom of the large climbing species, *Vitalba* and *montana*, which from the summits of lofty trees form garlands, or droop in graceful wreaths towards the ground. As regards most of the Clematises, planting at the foot of the tree-stem is lost labour, because, generally, in that position they become sickly, do not flower, or flower badly. The best, and also the most picturesque, way to grow the Clematis is that of the Vine in Italy, which is attached to the young Elm or white Mulberry tree in such a manner that the tree, left with just sufficient branch and vegetation to keep it alive, serves as a support for the Vine, and receives from it a borrowed luxuriance and ornament. In parks and large gardens every occasion should be sought to get rid of trees that have become inconvenient or give too much shade; but instead of rooting them up it is best to saw them off at about 7 feet or 9 feet from the ground, and allow them to put out a few branches to form living leaf-bearing supports for the Clematis. In selecting these, choose such as will give variety in colour and a long-continued season of bloom. In

PRUNING.

the Clematis the work should be done intelligently and in deference to the needs of each section. The *Viticellæ*, *Jackmani*, and *lanuginosæ*, which bloom on the wood of the same year, can be cut back more or less, especially the two first, when periods of cold have gone by. With the florideæ, on the other hand, little pruning is permissible beyond cutting off the branches that flowered the preceding year and as much as may be found necessary, having regard to the growth, which is very forward and even continuous in mild winters. Last, azureæ ought not to be pruned till the blooms are over, but useless branches and seed-bearing peduncles ought to be removed.—Dr. JULES LE BELE, in *Bulletin de la Société d'Horticulture de la Sarthe*.

Calceolarias.—It is not always these showy plants are satisfactory in the flower garden, disease often making sad havoc with them. Some gardeners have given them up on that account. I know it is thought that rich soil is necessary to ensure large, bushy, well-flowered plants, but I fancy they do better in a poor root-run and are less liable to disease. I am strengthened in this

opinion from the fact that in many amateurs' and cottagers' gardens round Norwich the plants do well and flower profusely. The soil, as a rule, is anything but rich, and growth in consequence more wiry than on plants growing in richer quarters and disease seldom met with.—J. C.

ROSE GARDEN.

SOME GOOD AUTUMN ROSES.

WHAT a wealth of variety the planter of the present day has to select from among the beautiful Tea, Hybrid Tea, Chinese, and Polyantha Roses. Many beds and borders that are now cumbered with common and garish bedding plants might be filled with these beautiful and perpetual-flowering Roses. Where is there any shrub so continuous in flowering as the Tea Rose and its congeners? Of course, such a season as the present has been an exceptionally trying one, but even this autumn, when the majority of the so-called Hybrid Perpetuals are losing their foliage, the truly perpetual kinds are yielding fair quantities of their delightfully tinted blossoms. A marked difference in the quantity of blossom produced is manifest where deep cultivation and judicious watering and mulching have been carried out, and I would impress upon all planters of these Roses the necessity of adopting measures to keep the plants in a growing condition. This can best be done by transplanting and also renovating the soil at intervals. I prefer beds of each variety even if the quantity of each does not exceed half a dozen plants. It may be said that every variety of the tribes mentioned has its own peculiar individuality in growth, and in my opinion a better effect is obtained when it is possible to give a bed to each kind. Now the Tea Rose, if pruned in a rational manner and not mutilated after the style of the exhibitors' plants, forms itself into a really graceful bush, differing greatly from the stiff, regular type of the Hybrid Perpetuals. Many of these beautiful Roses of the more vigorous habit of growth are peculiarly adapted for training in pillar form, and I would suggest beds of such kinds as *Gustave Regis*, *Belle Lyonnaise*, *Mme. Chauvry*, *Bouquet d'Or*, &c., at intervals where more elevated groups seem desirable. I would plant such beds in preference to the more formal standards, although these latter have their uses. Imagine a fine bed of *Mme. Lambard*, the bushes 4 feet to 5 feet high, as I have seen them, covered with lovely rosy pink blossoms in close proximity to a bed of *Hydrangea paniculata grandiflora*, or a bed of the ever-blooming *Camoens* (a Rose almost as persistent in flowering as the common pink *Monthly* and far more effective) in close vicinity to a small group of *Hypericum Moserianum*. The lovely azure blue of *Clematis Davidiana* would certainly be brought into greater prominence if a bed of the creamy yellow *Mme. Hoste* or the equally lovely *Enchantress* were in near vicinity to it. These are only a few of the many beautiful combinations possible between flowering shrubs and Roses, and although large masses are very effective, beds of the smallest size produce in proportion a beautiful effect. For this purpose I might mention as being excellent growers the charming *Anna Ollivier*, with its lovely long fawn-coloured buds, the richly coloured *Papa Gontier*, the glowing crimson *Marquise de Salisbury*, the beautifully formed rosy pink *Marie d'Orleans*, probably the best of the *Riviera* Roses, and the charming semi-double, large-petalled *G. Nabonnand*, as delicate in hue

as a *Sea Anemone*. One must not forget to notice the ever-popular *Marie van Houtte* with its carmine-margined, creamy blossoms, or the almost white, very double *Hon. Edith Gifford*, so grand in the early summer with its ruby foliage. Then there is *Caroline Testout*, probably the best deep pink for massing, a truly splendid garden Rose; and yet another rich pink is *Mrs. W. J. Grant*, equally lovely and showy for this purpose. *Mme. Abel Chatenay* has a great claim for admiration by reason of its exquisite fawn-pink blossoms and its vigorous growth that so well adapts it for pillar or bush form. The white *La France* and, of course, the old pink variety are so well known as to require no commendation here; sufficient it is to say that they remain two very useful kinds, and will always find a place by reason of their delicious fragrance. Two other well-known varieties are *Grace Darling* and *Viscountess Folkestone*, and even the smallest garden should possess them. The list seems inexhaustible, but one cannot conclude without naming *Mme. Pernet-Ducher*, so lovely in bud, which is creamy yellow, and expanded blossoms white, or *Grand Duc de Luxembourg*, that may be called a dark-coloured *Viscountess Folkestone*, and is admired by everyone who sees it, although as a novelty it seemed to escape the notice of most rosarians. A Rose that has made remarkable advance in popularity is *Kaiserin Augusta Victoria*; its excellent upright habit fits it admirably for the purpose in view, and its style of flower reminds one of a perfected *Devoniensis*. For a rich mass of apricot colour, no better variety exists than *Mme. Charles*, certainly the best of the *Mme. Falcot* tribe, and in good scarlet-crimsons we have *Princesse de Sagan* and *Francis Dubrieul*. The *Queen or Souv. de S. A. Prince and Sombricuel* are two grand pure white varieties, free and showy, and equally so are *Souvenir du President Carnot*, that has a blossom like a refined *Souv. de la Malmaison*, and *Mme. Carnot*, a splendid loose-petalled white Tea Rose. Three exquisite novelties that cannot be omitted are *Empress Alexandra of Russia*, distinct in its bronzy blossoms; *Mme. Jules Grolez*, a Rose of delightful colour, best described as a brilliant salmon-pink, with charmingly pointed petals; and last, but not least, *Souvenir de Catherine Guillot*, certainly the best of the *l'Ideal* type of Rose. All the above varieties are really excellent autumnals, and it is at this period of the year that beds of Roses seem extra valuable.

As I mentioned the Chinese and Polyantha tribes as useful allies to the Teas and Hybrid Teas, it may be admissible if I enumerate one or two of the best of them. Of the Chinese the most popular is certainly *Mme. Laurette Messimy*, possibly because its more lovely offspring, *Mme. Eugene Resal*, is not yet so well known. Another beauty is *Queen Mab*, with delicious apricot-coloured buds and splendid in constitution. Of older sorts, *Cramoisi Supérieur* is the most vivid of scarlet-crimsons, and *Fabvier*, if not so double, is a valuable rich crimson variety. *Duke of York*, a more recent introduction, is a charming Rose and always supplies quantities of highly-coloured *Homère*-like buds. *Mrs. Bosanquet* is not yet surpassed as a flesh-tinted variety, and of course the old blush-pink is a most excellent kind, but perhaps more fitted to form hedges or to be massed by carriage drives. In the Polyantha tribe we have Roses that lend themselves particularly to grouping, their growth being so dwarf, compact and uniform. A splendid white is *Anna Marie de Montravel*, producing a perfect sheet of bloom and most brilliant in its purity. *Gloire*

des *Polyantha* (rosy pink), *Perle d'Or* (apricot) and *Perle des Rouges* (crimson) are all excellent kinds for the purpose in view.—PHILOMEL.

—A great many of our popular Roses have been blossoming with great freedom this autumn, and for several weeks past I have been able to gather bunches of beautiful fresh blooms almost daily. As a rule Roses generally bear a good crop of blossoms in the autumn, but this season they have surpassed themselves. It is certainly very unusual to see Rose bushes covered with blooms in various stages of development at this time of the year, and yet such has been the case here of late. In many cases better developed and far more perfect blooms, even if smaller, have been produced than earlier in the year or during the Rose season proper. *La France* has been a notable example in this respect; in fact, one large-headed standard in particular was carrying as many flowers a few days ago as in the early part of June. *Kaiserin Friedrich* has also produced a good crop of its coppery yellow flowers, and *Reine Olga de Wurtemberg* the same. *Lamarque* on a wall has given a fine lot of its beautiful chaste flowers, and a *Niphetos* hard by has also bloomed freshly, while the hybrid *rugosa* *Mme. G. Bruant* has again been clothed with a plentiful display of its pretty semi-double flowers. Among the Bourbons, *Souvenir de la Malmaison* and *Queen of Bourbons* have been beautiful, the shell-like petals and pretty flesh colour of the latter being remarkably handsome. The former generally produces more symmetrically-shaped blooms in the autumn than in early summer, and this season has been no exception to the rule. Among Tea Roses, many of the varieties blossom well in the autumn, and of these none is so free-flowering as *Mme. Lambard*, which is seldom out of bloom, and from the whole class a good supply is generally maintained until frost cuts them off. Among Hybrid Perpetuals, quite a large number have blossomed very freely. Among these, *Ulrich Brunner*, *E. Morren*, *Anna Alexieff*, *Senateur Vaisse*, *Mme. S. Rodocanachi*, *Bessie Johnson*, *Mrs. J. Laing*, *Dr. Andry*, and *General Jacqueminot* call for special mention. The blooms of all these are of course smaller, but they are perfect in form. The colours, as is usually the case in the autumn, are perfect and the perfume of the scented varieties delicious. The pretty *Polyantha* *Roses* *Gloire des Polyantha* and *Anna Marie de Montravel* are very charming, and it is but seldom that they bloom here in such profusion twice in one season. The old *Monthly China* Rose will continue for some few weeks yet to produce an abundance of its charming sweet-scented flowers, which if cut just before they are half expanded last several days in water. Hot weather setting in as it did, before the Rose season proper was past, shortened the season considerably, and the blooms were burnt before fully expanded. This profuse autumn flowering is on that account all the more welcome.—A. W., *Stoke Edith, Hereford*.

—What a glorious time we are having here amongst the autumnal Roses! Some of the first to flower very early in spring (I am speaking of Roses left to take care of themselves roughly outside) are now the best. *Mrs. W. J. Grant*, *Belle Siebrecht*, *Dr. Grill*, *Princess May*, *Souv. de la Malmaison*, *Reine Marie Henriette*, *Jaune Desprez*, *Ophir*, *Ophir* (the last the best with me, for a bud almost perpetual flowering), *Homère* (very free and hardy), *Marie van Houtte*, and *Mrs. Paul* are excellent. *Gloire de Margottin* against a wall is most dazzling. This beats, if possible, *Paul's Carmine Pillar* and *Paul's* grand *Single Scarlet* for colour, and flowers late and early. *Wm. Allen Richardson* is putting out flowers of exceptionally good colour. *Victor Verdier*, *Fisher Holmes*, and *Senateur Vaisse* are giving lovely buds. *Mrs. John Laing* is flowering at the ends of long shoots, with *Aimée Vibert* and many others. Sweet Peas, too, are flowering splendidly.—GEORGE BOLAS.

* * * A beautiful gathering of Roses, many of the blooms being equal to those we are accus-

tomed to see in the height of the season. The colours, too, are very brilliant.—Ed.

Rose Etienne Levet.—I was very much surprised to find "P." describing this Rose as having a dwarf and stumpy growth, for I have always found it to be most robust, and the National Rose Society's catalogue describes it as robust. In truth it is one of those Roses which we are constantly warned not to prune hard because of its tendency to make strong shoots, and so lose its free-flowering habit. It is one of those large shell-petalled Roses that are much in favour with exhibitors, and for the same reason is always an attractive Rose in the garden, but my experience of it is certainly not that of your correspondent.—D.

Roses at St. James', Malvern.—In these gardens, on sharp slopes on the lofty hillside, Roses of all descriptions, and especially Teas, do wonderfully well. The soil is of pulverised cyanite, the material of which the grand range of Malvern Hills is composed. It does not look at all like a Rose soil, but trenched and manured it suits them well. Roses are planted on the slopes here by hundreds, and almost every description of garden Rose, besides Teas, is found. When I saw the gardens on September 13 the latter plants were all blooming profusely. The Hybrid Perpetuals, fine as they may be in summer, were not in it for a moment with the beautiful branching Teas. On one slope are numerous plants of the newer French Hybrid Teas, but these seem poor things when compared with the best Teas of commerce. No doubt the elevated position and sharp slope of the soil suit the plants well and render them hardy. A remarkable Rose for covering banks is *Rosa Wichuriana*. This, whilst having in growth and foliage some resemblance to the Banksian, yet literally creeps on the ground like Ivy and does not rise above 12 inches. During the summer and autumn it blooms profusely. The flowers, borne in small clusters, are single and pure white. It would make a grand plant to face and bind railway embankments. Crimson Rambler will next year be a huge umbrella-like mass. Very fine on fences are Longworth Rambler and Gloire de Dijon, and many free growers profusely cover banks. *Rosa rugosa* forms a hedge 200 yards long in one portion of the grounds; indeed, Roses crop up everywhere and in luxuriant condition.—A. D.

GARDEN FLORA.

PLATE 1191.

THE SPECIES OF AZALEA.

(WITH A COLOURED PLATE OF RHODODENDRON VASEYI.*)

WHILST it is convenient to speak of Azaleas as distinct from Rhododendrons, it has long been admitted that no real distinctive line can be drawn between the two. They were originally kept apart on the strength of the deciduous foliage and five stamens of the Azaleas, but when species like *A. indica* and *A. ledifolia* were found with evergreen foliage, and other species with ten or more stamens to each flower, the only logical course was to unite them to Rhododendron. The species now figured is one of the Azalea group. This section of the genus is most abundantly represented in North-eastern Asia (China, Japan, Manchuria, &c.), to which region the evergreen species are confined. A beautiful group of some seven species comes from North America, whilst in Europe we have but one species (*Rhod. flavum* or *Azalea pontica*). The American species are amongst the most attractive of hardy shrubs, but they are surpassed by the numerous varieties that have been obtained

from them by hybridisation and selection, which are often known as Ghent Azaleas. These, again, have been crossed with *R. flavum* and sinense, the whole constituting what is in some respects, the most beautiful group of deciduous shrubs that can be cultivated in this country. The charm of these Azaleas consists in their marvellous wealth of blossom, in the rich and glowing, often tender and exquisite, shades of colour, and in the fragrance which most of them possess. The colours range from pure white and yellow to bright orange-scarlet and rosy-purple. In a word, no garden is complete without them. In the following notes only the wild types are discussed. Some of these, whilst lacking the size of flower and variety of colour seen in the hybrids, are quite as fine seen in the

from seed, and although the hybrids do not come true, it is interesting and useful work to raise them from seed, selecting this from the finest varieties. Whilst the seedlings vary considerably, they retain in a great measure the characteristics of the parent plants; some, indeed, are likely to be superior to them.

AMERICAN SPECIES.

RHODODENDRON ARBORESCENS.—But little is known of this Azalea in gardens at the present time; it is one of the rarest of the American species. It is a shrub, sometimes 15 feet to 20 feet high, with blunt lustrous green leaves that are quite smooth on both surfaces, but have bristly hairs on the margins. The flowers are white or faintly rose-coloured, each one 2 inches to 2½ inches across, with the corolla slightly clammy



Hardy Azaleas in a vase.

mass, and those that are fragrant are not surpassed in this respect by any of the hybrids. Others, again, are quite distinct from any of the hybrids both in flower and in the season of blooming. They are of easy cultivation, and can be grown in any moist soil either of a peaty or loamy nature that is free from lime. They are benefited by an annual mulching of rotted manure, more especially during dry seasons such as we have lately experienced. A freer growth and a better setting of bloom are secured if the seed-vessels are removed as soon as the flowers are past. This is a tedious job, but worth doing. The named hybrids are usually propagated by grafting on stocks of *R. flavum*, necessitating, unfortunately, a constant watch for suckers. The species here mentioned should be raised

They are charmingly fragrant and their beauty is enhanced by their bright scarlet stamens and pistil. It is a native of the mountainous region from Pennsylvania to South Carolina and Tennessee, and is especially abundant on the foot-hills of the high mountains of North Carolina. It is figured in *Garden and Forest* for 1888, and is there stated to have first been made known to botanists by Pursh in 1816. He had found it in the mountains of Pennsylvania and in Bartram's garden at Philadelphia. John Bartram, therefore, was the real discoverer. It was introduced to Britain in 1818. Prof. Sargent notes that the leaves in drying give off a perfume like that of new-mown grass, a peculiarity not noticed in other Azaleas.

R. CALENDULACEUM.—Some of the most brilliantly coloured of the Ghent Azaleas, especially those with orange-red flowers, owe their beauty

* Drawn for THE GARDEN in the Royal Gardens, Kew, by H. G. Moon. Lithographed and printed by J. L. Goffart.

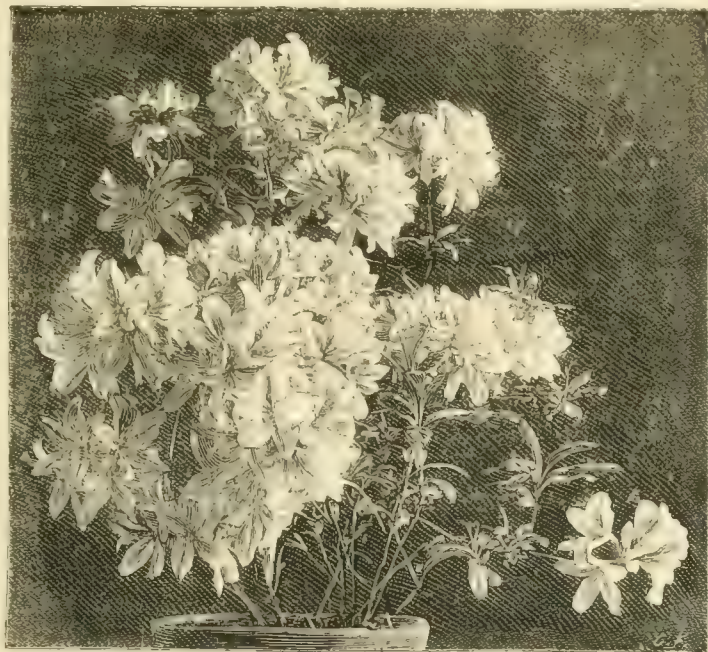


in a great measure to this species. In its pure form, however, it has become very rare in our gardens. It is a shrub probably 8 feet to 10 feet high. The leaves are hairy on both surfaces. The flowers appear before the leaves and are of a brilliant orange colour, and are, perhaps, the most beautiful of any of the American types, although they have no fragrance. The tube of the corolla is shorter than the lobes, this being one of the distinguishing characters of the species. It is a native of the Eastern United States, and extends from Pennsylvania to Georgia. It was in the latter State that it was discovered by the elder Bartram in 1774. It was introduced to this country by Mr. Lyon in 1806. The following is Bartram's description of his first sight of this Azalea in flower: "I saw the blossoms covering plants on the hillsides in such incredible profusion, that, suddenly opening to view from deep shade, I was alarmed by the apprehension of the hill being on fire."

R. NUDIFLORUM (the Pinxter Flower).—Like the preceding species, this is one of the North American Azaleas, from which the Ghent Azaleas have been largely derived. It has an extensive distribution, and spreads from Canada as far to the south as Florida and Texas. Peter Collinson was the first to introduce it, in 1734. Its leaves are downy beneath, and the tube of the corolla is scarcely longer than the large lobes. The flowers vary very much in colour. In what may be considered the type they are pink, but the numerous forms have them of every gradation of red, from pink to scarlet and purple, some being striped or variegated. Most of the parti-coloured Ghent Azaleas owe their origin more or less to this species.

R. OCCIDENTALE.—Both Douglas and Hartweg gathered specimens of this Azalea in Western North America when collecting for the Horticultural Society in the earlier decades of this century, but Wm. Lobb seems to have been the first to send seeds home. This would probably be in the early fifties. In spite of the more than forty years that have passed since it was introduced, this Azalea has never received until quite lately very much notice. Its real merits do not seem to have been known, and even Lindley in 1857 pronounced it to be "of little value." It is not only a beautiful shrub, but it possesses the additional merit of flowering for some weeks after the great Azalea time is past. Our largest plants are about 6 feet high, bushy and well furnished with glossy green leaves, each 2 inches to 4 inches long. They commence to flower in early June and continue well into July, and, unlike the majority of these Azaleas, the blossoms are accompanied by abundant foliage. They are each about 3 inches across and of a pure white, with a blotch of pale yellow on the upper side. Not their least charming characteristic is the sweet and powerful fragrance. For some years past Mr. Waterer, of Knap Hill, has been crossing it with the earlier flowering varieties, and has succeeded in uniting some of the rich colour of the latter with the late-flowering character of this species. It is the only Azalea found to the west of the Rocky Mountains, and inhabits woody districts, generally near streams, almost throughout the whole length of California.

R. RHODORA (*Rhodora canadensis*).—This species was introduced by Sir Joseph Banks in 1767, and for a long time was considered to be generically distinct from the Azaleas and Rhododendrons, being known then as *Rhodora canadensis*. The character on which its generic rank was founded



Rhododendron (Azalea) sinensis.

was the peculiar arrangement of the corolla. This is two-lipped, the one lip consisting of two narrow, nearly or quite distinct petals, the other of three shallow, rounded lobes. The flower is $1\frac{1}{2}$ inches across and of a bright rosy purple. This shrub is dwarf and does not grow more than 3 feet or 4 feet in height; the leaves are more or less downy and glaucous beneath, and do not appear till the flowers are past. It is a native of Canada and Newfoundland southwards to the mountains of Pennsylvania, and frequents moist or boggy places. The plant is perfectly hardy and blooms freely; it is worth growing for its early blossoms, which are of a colour not frequent in shrubs flowering in early April, when this is in bloom.

R. VASEYI.—This is one of the most promising shrubs introduced from North America in recent years. It is a native of the hills of North Carolina, where it is described as growing into huge bushes 15 feet high. The leaves, which do not appear till after the flowers, are each from $1\frac{1}{2}$ inches to 3 inches long. The flowers are crowded on trusses after the manner of the other American Azaleas, and on first opening are of a pale pink, but they lose the slight tinge of colour and become almost pure white after a few days. The three upper petals are spotted with reddish brown, and the whole flower is about $1\frac{1}{2}$ inches across. It appears rather remarkable that so fine and showy a plant as this Azalea should have been so late in reaching cultivation, for, although a native of so long settled a country as North Carolina, it was not introduced into this country till within the last ten or twelve years. It is perfectly hardy, and flowers freely when two or three years old. Some of the seedlings raised in this country have blooms that are pure white on first opening. Its flowering season is late April and early May, and its beauty at that season when scarcely any of the Azaleas are in bloom may be judged by Mr. Moon's charming picture.

R. VISCOSUM (the white Swamp Honeysuckle).—This species is the latest flowering of the deciduous Azaleas, and is one of the most pleasing shrubs blooming in July and August. Its flowers,

like those of the Old World *R. flavum*, are clammy, and much more so than those of any other of the American species. They are smaller than those of most of the Azaleas, of a pinkish white, and delightfully fragrant. It has been hybridised with other species, and the progeny has flowers white, pink, rose-coloured, &c.; in fact, most of the hybrid Azaleas that have clammy flowers with no yellow in them are of the viscosum strain. (The viscid, yellow-flowered Azaleas are of the flavum breed.) The leaves of *R. viscosum* are each $1\frac{1}{2}$ inches to 2 inches long, green both above and below, and smooth except for the margins and the midrib, which are set with bristly hairs. In a wild state it extends from Canada to the Southern United States, growing in moist places or swamps, and attaining from 3 feet to 10 feet in height. It was introduced in 1734.

R. V. VAR. GLAUCUM has been by some authorities made a species. The typical form is very distinct from *R. viscosum* because of the blue-white under-surface of the leaves. But one may find plants showing every intermediate stage of glaucousness up to the ordinary green of viscosum. The flowers are white, viscid as in the type, and also charmingly fragrant. Introduced in 1734.

EUROPEAN.

R. FLAVUM (*Azalea pontica*).—This species is a native of the Caucasian region, the shores of the Black Sea, &c., and is the only Azalea indigenous to Europe. With the exception of a few varieties of the *sinensis* (or *mollis*) breed, all the pure yellow Azaleas have originated from this species, and they are well known to constitute one of the most beautiful groups of the family. The species has, of course, been crossed and recrossed with the American ones, and is one of the chief sources whence the hybrid Azaleas of gardens have been derived. One character that distinguishes it and its progeny is the clamminess of the flower-stalks. It is a very vigorous plant, with large hairy leaves, and grows 8 feet to 10 feet high. In the type the flowers are bright yellow and very abundant, and their fragrance is very delightful. In flower they are beautiful, but are, of course, surpassed in beauty by the fine yellow varieties raised by the Waterers and others. It was introduced by Mr. Anthony Hove in 1793. Honey collected by bees from its flowers is stated to have narcotic properties.

ASIATIC.

R. INDICUM.—The common greenhouse plant known as *Azalea indica* has in some of its forms



Rhododendron (Azalea) ledifolium.

proved to be hardy in the milder parts of Britain. In the Cornish gardens one may see enormous bushes of it, and even as far north as London the wild Japanese type recently collected by Professor Sargent is hardy, and still more so is the well-known var. *amenum*. The latter is, in fact, a more striking and beautiful shrub out of doors than it is under glass, its flowers being of a brighter colour and its habit more compact. It

has been grown outside at Kew for some years past, and for certain places proves to be a really useful evergreen. It is quite distinct in appearance from any other hardy evergreen, and has that peculiar habit of sending out flat, horizontal branches which we have come to consider essentially Japanese, perhaps because the artists of that country are so fond of drawing plants with that character or of endowing their imaginary ones with it. The leaves grow very small out of doors, but they are of a deeper and more lustrous green. Plants outside flower later, of course, than they do under glass, and are at their best, as a rule, about the middle of May. On healthy plants the flowers completely hide the foliage, and although smaller than we are accustomed to see them in the greenhouse, they lose in the open air a good deal of that magenta-purple shade which is objectionable to many people. The flowers have the curious character known to gardeners as "hose-in-hose"; it is as if one flower were growing out of the centre of another. This is due to the calyx being like the petals in size and colour. This *Azalea* is slow-growing, but in many positions this is a valuable characteristic. If planted in beds or groups it saves the labour of frequent thinning, and allows of Lilies or other bulbous plants being cultivated between the plants. In positions where only a low growth is wanted it saves the hard annual cropping that such things as Laurels and *Rhododendron ponticum* have to undergo.

R. l. var. obtusum is a beautiful shrub, probably hardy. It has not the hose-in-hose flowers of *amenum*, but it has them of a much brighter and purer red. Some nice plants were shown in flower at the last Temple show. Fortune found this shrub in a garden at Shanghai and introduced it into England in 1846. A form with white flowers is also cultivated.

The choicer garden sorts of *Azalea indica* are undoubtedly too tender for outdoor cultivation here.

R. LEDIFOLIUM.—Although certainly hardy in the home counties and long known in our gardens (having been introduced from China by Mr. Brookes in 1819), this evergreen *Azalea* has been but little planted out of doors. It is both an interesting and a pretty shrub, nearest related to *R. indicum*. It has very hairy leaves and branches, the latter being usually stiff and erect, and the former not glossy, as in *indicum*. The flowers are generally borne in threes and are pure white and fragrant. The calyx lobes are glandular and viscid. The species is, therefore, readily distinguishable from *indicum*, the only species with which it is likely to be confounded. The latter has a looser, more twiggy growth, much less hairy foliage, and the calyx is not viscid. With regard to its native country, it is, according to Franchet, cultivated, but scarcely wild, in Japan, though Maries collected it on the Fusi-yama Mountain. No undoubtedly wild specimens are recorded for it in China, and although a specimen so named is in the Kew Herbarium from the Soul Mountains of Corea, it is doubtful if that be the true thing. This matter, therefore, is not definitely settled.

R. LINEARIFOLIUM.—Although one of the least showy of the *Azaleas*, this species is one of the most striking and distinct. It bears no resemblance to any other species in cultivation. The branches have the same tendency to grow in flat, horizontal tiers that can so frequently be noticed in Japanese shrubs. The leaves are remarkably distinct in shape, being quite linear, measuring 2 inches to 3 inches in length, and only about one quarter of an inch in width at the broadest part. These leaves are crowded at the ends of the twigs and are thickly covered with hairs. The flower is as distinct as the leaf. The corolla has five petals that have the same linear shape as the leaves; they are 1½ inches long and the colour is a bright rosy lilac. Hitherto it has usually been grown in the greenhouse, where it flowers during the first three months of the year. Except in large collections, however, it is scarcely worth a place under glass, where so many finer varieties

can be grown, but it has proved hardy in a rather sheltered spot at Kew, and out of doors is certainly worth growing for its curious and interesting appearance. It was introduced from Japan by Messrs. Standish, and flowered with them for the first time in February, 1869.

R. RHOMBICUM.—There is a fine plant of this species in the *Azalea* garden at Kew which is now 5 feet high and which flowers very beautifully every year towards the middle or end of April. It has been in its present position many years and has been mentioned in the horticultural press many times. Still, the species remains very rare, and this plant is probably the only one in the country so large. It is, however, being raised by nurserymen, and I noticed a nice stock of young plants at Messrs. Veitch's nursery at Coombe Wood some time ago. It is a native of Japan, and was first found in the forests on the mountains of Nippon. Its leaves have the lozenge shape indicated by the specific name, and they are about 2 inches long. When quite young they are prettily tinged with purple, and after turning a dark green they assume once more a purple tinge before falling in autumn. The flowers are each 2½ inches in diameter and of a very striking blue-purple colour, quite different from that of any other hardy *Azalea*. To those who may be raising this plant from seed it may be mentioned that the seedlings are tender. The past two winters have been so mild that young plants have not suffered at all from cold, but in ordinarily severe winters protection of some kind is needed. Such material as Bracken, Spruce branches, or even dry leaves make a good covering whilst the hardest weather continues. When once the plants have formed a sturdy woody base they are safe. The old plant at Kew is never protected, but it has never been affected by even the hardest winters.

R. SCHLIPPENBACHI.—This is undoubtedly one of the most beautiful shrubs that have been introduced during the last few years. It was collected by Oldham as long ago as 1863 on one of the islands near Corea (Herschel Island); afterwards it was discovered in Manchuria by the Baron Schlippenbach, after whom it is named and from whose material it was first described by Maximowicz. But the credit of its introduction to cultivation here is due to Mr. J. H. Veitch, who sent it from Japan five or six years ago. There is a coloured plate of it in *THE GARDEN* for July 28, 1894. It is a shrub, growing, it is said, from 3 feet to 5 feet high. Its leaves are very distinct; they are borne in a whorl near the end of the shoot, each leaf from 2 inches to 4 inches long, obovate, and hairy when young. The flower-stalks and calyx-lobes also are hairy. The flowers open fully, are 3½ inches across, and of a lovely shade of soft rose, the upper petals prettily spotted at the base with reddish-brown. It flowers in April and May. In the milder parts of the country it is likely to prove a very beautiful shrub. Near London I am not yet able to speak favourably of it when grown out-of-doors. It appears to be extremely susceptible to injury by spring frosts, the young growths having been cut off sometimes twice in one season. Like many Manchurian plants in cultivation here, it may be perfectly capable of bearing our hardest winters, but yet never able to do itself justice because of the habit of starting so early into growth.

R. SINENSE (Azalea mollis).—Perhaps of all the deciduous *Azaleas* this is the most charming to the eye, its flowers being larger than those of the American species, and their varied hues being of a peculiarly soft and delicate beauty. They lack, however, the charm of fragrance. The species is a native of China and of the alpine regions of Japan. It was first introduced by Loddiges in 1823, and again by Fortune in 1845. The young branches, the leaves, and the flower-stalks are all more or less clothed with hairs. The flowers appear during early May, and are typically of an orange colour suffused with red, but they vary from pale yellow to numerous shades of rose and salmon colours. Whilst the shrubs themselves are quite hardy, the flowers are frequently injured by late frosts, especially in exposed positions.

In habit the plants are more compact and rounded than either *flavum* or the hybrid sorts. Many catalogues now advertise crosses between this plant and "*Azalea mollis*"; this is rather absurd, for they are, of course, the same thing. Whatever the origin of the varieties referred to may be, they are certainly very beautiful. This was conclusively shown by the specimens exhibited at the last Temple show by a continental firm. W. J. BEAN.

Arboretum, Kew.

THE WEEK'S WORK.

KITCHEN GARDEN.

EARLY WINTER TOMATOES.—The weather has been favourable for these plants, fire-heat not being needed up to now. The growths are strong and the fruits are setting freely. At the same time it is well to keep the roots active by giving food in small quantities now plenty of fruits are set. Plants with a small root-run with shortening days and less sun-heat will need assistance. I grow the winter Tomatoes in borders and pots, the latter for latest supplies. These will now need more food than those in borders. In the borders only a very small root space is allowed, and it is surprising what strong growths are made in a few inches of soil. It may be asked, why grow at all in borders? My reason is because of the labour at the time of planting, as to pot a large number takes time, and having a good number of low pits when Melons are cleared, the Tomatoes follow and give little trouble, doing well in the old Melon soil. Deep rooting is avoided, as the plants are placed over slates with a limited quantity of soil. Owing to the unusual warmth for the time of year, the plants are more forward than usual and a later set of fruit will be needed. This is not at all difficult with plants in borders, as with fine weather they continue growing and set fruit further up the stem. Once the fruits are swelling there is no difficulty whatever in finishing the crop. To assist the fruits at this date, feeding will be necessary. It will also be advisable to stop all later growths, and where the plants are well set with fruits there need be little fear of gross foliage. It may be well to top-dress, using compost that will quickly benefit the plants. I use loam, bone-meal and wood ashes, which are soon laid hold of by the roots, at the same time giving occasional waterings of liquid manure or soot water. With plenty of air the food given is soon absorbed by the plants. The plants, being grown near the roof as single cordons, get all the light possible and there is ample ventilation. Indeed, till the latter part of September, owing to the heat and drought, the top sashes were entirely removed, this assisting the fruits to set. Up to that date no fire-heat at all was employed. With cooler nights there is now need of warmth in the pipes; at the same time the house is not closed. Should the plants be at all gross, omit manures and give ample ventilation, keeping the foliage thin and securing an early set. I advise manures where the roots are under command, and with plants in rather small pots it is necessary to feed when there is a goodly number of fruit set. Many growers do not trouble about late Tomatoes, as they are difficult to set. This is so if the plants are late. So far I have never been able to set Tomatoes in quantity after November comes in.

EARLY SPRING TOMATOES.—These I noted the importance of some time ago and detailed their culture. By having healthy plants now to place in warmth early in the year, there is no great difficulty in getting good fruit in April at a time Tomatoes are scarce. The plants up to now have been grown as hardy as possible, having been plunged in ashes in the open or stood in cold frames with the sashes removed. With colder nights they are now housed on shelves close to the glass to get a sturdy growth. It may be necessary to give the early fruiters a shift. Only a small one should be given just to keep the plants

moving. I prefer repotting earlier, as the plants need careful watering. They winter well in 6-inch pots, and if the plants are well rooted it is an easy matter to give soot-water or weak liquid manure. Should white fly be at all troublesome, it may be necessary to fumigate two or three nights in succession. Plants raised thus are preferable to those struck from cuttings or raised from seed sown late in the year. I fruit these plants in 8-inch or 10-inch pots, according to their vigour at the time of final repotting. The fruits usually ripen at the end of March or early in April, whereas with later sown seedlings ripening takes much longer. Let me warn those who have good plants not to be too eager to get fruit. Early in the new year is a good time to start, keeping the plants cool till that date, as I find it impossible to set Tomatoes till January is well advanced.

CAULIFLOWERS.—In the southern parts of the country, owing to heat and drought, the early autumn Cauliflowers have had a bad time of it, heat and drought having sadly crippled the crop. For the past few weeks I have been obliged to keep a boy to clear these and the Brassicas from caterpillars. So far by mulching I saved a goodly portion of the latest lot of Autumn Giant, and this year I have found spent Mushroom manure invaluable for the purpose, this conserving the moisture and keeping the roots active. Those who planted late will feel the effects of the weather more severely, and there will, I fear, be a dearth of good winter vegetables owing to the above causes. In heavy soil much may be done by frequently hoeing the surface over lightly. This fills up the cracks and assists root action. The seedlings raised in August will be more valuable than usual owing to other vegetables being scarce. If the seedlings are unduly crowding each other, it will be well to thin out the largest. These may be transplanted rather close under a wall or where east winds will not reach them. It is yet full early to pot up for the spring planting, but I would not delay the work if the plants are large enough. I pot some hundreds into $4\frac{1}{2}$ -inch pots and others into 3-inch pots. If the winter is a severe one, it is an easy matter to plant them out in frames or pot on to get early heads before those in the open turn in. Grow these plants as cool as possible from this date. I plunge in ashes a large portion of the potted plants, and in severe weather they are protected by spare sashes and dry Bracken or litter. In potting up use a rather stiff loam. I add a little mortar rubble and pot as firmly as possible. Avoid rich soil or manures, these causing a soft growth, readily injured by frost. The ground for the plants put out under hand-glasses should now be prepared, and as Cauliflowers to do well need ample food, well-decayed manure should not be omitted. It is well if possible to give change of quarters. I am aware it is not an easy matter to get sheltered corners every year, but if the plants are always in one place they club badly.

MUSHROOMS.—This is an important crop now. I have previously noted the importance of an equable temperature through the winter, and even now the same remarks hold good, as the best flavoured produce is that grown without heat. I am aware in many Mushroom houses it would be far better not to use the heating apparatus at all, provided the house can be kept at a temperature of 45° to 50° . Many of the failures to grow Mushrooms arise from dry heat, want of moisture, and what may be termed sudden fluctuations of temperature. Many houses are built near the boiler house. This is fatal, as the dry heat is the cause of failure, it being impossible to maintain the humidity necessary to secure the fleshy Mushrooms, and insect pests are difficult to keep down. For years, having such a house to deal with, I used a cool shed and got excellent produce. In severe weather I used to bank up the fresh manure close to the door, and a little lower temperature did no harm. Many may have underground places, and here they will have fine crops. Materials should now be regularly prepared. The manure should be of the best, though in cellars I have used a good portion of short litter with the

droppings if the latter are well saturated with ammonia. Another plan is to mix soil with the material if the beds are of a good thickness. I am sure many beds are left to get too cool before spawning. I always spawn if the temperature is under 100° and falling. Another important point at this time of year is to get new spawn and of good quality. Beds may also be made with a small portion of decaying leaves; in fact, I have seen excellent produce from leaves and manure. Avoid over-heating the materials previous to making up. Beds made every month from this date to the end of March will give a regular supply, and after that period I make the beds in the open. Much may be done with beds in full bearing by giving liquid manure in a tepid state and adding salt, allowing the surface of the beds to dry before covering over and watering only when dry. S. M.

FRUIT HOUSES.

PINES.—The stock of Queen Pines for early forcing should by this time have made a sufficient growth for them to be gradually and steadily rested prior to being started afresh about the beginning of the new year. If this be the case the temperatures may be lowered both by day and by night. Do this by degrees until a minimum of 60° is arrived at for nights, except when frosty, then 55° may be touched without any harm happening. It has been a popular delusion that Pines must have a higher temperature than this, but it is not so when in this state. Many have practised it, and the result has been either adventitious fruiting or elongated foliage. A day temperature of 70° to 75° will be sufficient. The atmospheric moisture, too, should be diminished as well as water being withheld at the roots, but not to an excess should the occasion arise of having to maintain an undue amount of heat in the pipes. Watch the bottom-heat glass also, and do not let it indicate more than from 70° to 75° if possible. Syringe lightly between the plants upon the surface during fine weather. This will be ample for the present. Guard against drip and watch sharply for all insect pests, as cockroaches and crickets, which later on will do harm enough in eating the flowers. If they be starved now as regards vegetable matter, they will all the more readily take to poison. Plants now fruiting will still require the temperatures to be maintained fairly well, say 70° at banking-up time and from 80° to 85° by day, with at least 80° at the roots. As soon as colouring now commences no more water should be given, but in place of it adopt or continue the syringing just alluded to. The Queen Pine, of which late fruits are sometimes produced, is very apt to turn dark at the core if this treatment be not rigidly carried out. The Cayennes and other winter kinds are not nearly so much liable to this, hence a slight difference may be made in their case. Cut the fruits now when there is still a tinge of green upon the upper pips; they will then keep all the longer, and in the case of Queens in particular be safer to use also for the reason already given. If too many are ripening at one time the plants may be lifted out of the bottom heat for a few days and then be afterwards removed to a cooler temperature, being kept absolutely dry at the roots. Plants now showing fruit, in flower, or in their earliest stage of swelling must have the temperatures more fully maintained than in the case of those ripening. The utmost should be made of the present month for this purpose. Close early after having had a crack of air on to change the atmosphere in some measure and keep a brisk heat in the pipes at the same time. Be careful, even in the case of this stock, as regards watering, but give compensation by a humid atmosphere instead. At this season some plants are disposed to use any excess of vigour they may possess in developing crowns of large size. This may be checked by thrusting a hot piece of wire into the centre of each crown, which is better than allowing the leaves to grow more fully and then resort to pulling them out. This stock of Pines

is an important one for the Christmas season, hence it will pay to give every attention to it. Young plants of Queens and Cayennes which have not had time enough to make all the growth desirable may be still kept fairly warm, about as advised for plants now ripening. Let them, however, have all the light possible, and contrive also to keep them well up to the glass by re-arrangement if need be, for wherever the Black Jamaica or Lord Carrington is grown they will invariably be back row plants by reason of their longer leaf-growth. Do not now attempt any more potting, but if occasion arise substitute a manure instead. For this purpose Standen's is one of the best of all manures, being also highly concentrated, hence but little is required at the time. Those plants which are of sufficient size for the winter season may, on the other hand, be gradually rested by lowering the temperatures about 5° , but do not keep these too very dry at the roots, otherwise in the spring such as Queens will show fruit too soon. In every instance do not allow the foliage of Pines to touch the glass, otherwise a channel is at once afforded for the condensed moisture to run down into the hearts of the plants. The present is an excellent time for painting, cleaning, &c., in Pine stoves or pits, as room should now be available in Melon and Cucumber houses for storing the plants. Do not on any account let Pines get among the stove plants, where possibly the white scale may be lurking ready to pounce upon them. There is no enemy so much to be dreaded by growers of Pines as this pest. Mealy bug is bad enough, we all know, but upon Pines the white scale is infinitely worse. Look also to the heating arrangements, more particularly to the bottom-heat pipes, where a slight leakage may exist without notice, to break out into a serious one when more pressure is exercised in the circulation. A reserve of plunging material will be of service, but do not keep anything that is infested with vermin. Dry leaves now and soon to be secured will prove most useful. They will afford a normal or steady temperature, which may later on be increased by pressing them down and adding fresh ones. At such times pour boiling water into every nook and cranny, aiming at all insect extermination.

LATE MELONS.—The latest of these should now be ripening, and should any show signs of hesitation in this respect keep the temperature fully up to past standards, but guard against too much moisture at the roots, otherwise the flavour will be affected. Hero of Lockinge has been alluded to as a good late kind. If it be cut when well coloured, but before it is quite ripe, this variety will keep well for a fortnight or even three weeks. In spite of all the new kinds yet sent out with white flesh, there is no Melon, even those to which first-class certificates have this year been awarded, that can equal it in point of flavour, whilst it surpasses all Melons in appearance. Do not in any case permit the fruits now to hang too long, so when the first signs of cracking occur around the stalk, cut the fruits and place them in a warm, dry house, such as the late vinery, which is still kept up to about 55° or so at night. Should there be any surplus fruits, it is easy to use them up in the kitchen rather than let them spoil by keeping too long.

BANANAS.—The young stock of these should be well looked after, no check being allowed by a sudden drop of the temperature in houses where possibly other fruits or plants are being cultivated. There is no object or possible gain in prolonging their time of growth. If grown briskly from start to finish the results will be more satisfactory. Of course the season is coming on rapidly when growth will be much less; but, nevertheless, give the Banana all the warmth consistent with good results. The temperature of the average run of stove plants will suit very well, bearing in mind that stove plants even are improved by being kept fairly warm for at least another six weeks. Shield the foliage as far as possible from injury, allowing sufficient height for the leaves to rise and expand without being crippled against the glass. Pot or tub

young, vigorous plants into their fruiting sizes without any delay, and endeavour thereby to get them well rooted before winter is on us. Plant out also into pits with some fermenting material under the plants if no bottom-heat by pipes be available. Do not, even if it be not possible to do this work yet, let the plants become too much root-bound, but give them a temporary shift. Look after a sufficient stock of suckers to keep up the supply. It is not often a difficult matter to do this, being more frequently one of selection to get the stock at the right stages. These, if taken off now from fruiting plants, will make a good stock to start into brisk growth in the spring. At this season the Banana makes a capital addition to the dessert, and will do so onwards until the last of the "fingers" are ripe. Then do away with the old plants at once, when any dormant crowns under the surface can be taken off for future stock. Fruiting plants still in the green stage will be benefited by keeping the temperatures up as nearly as possible to the summer standards. Whilst the influence of the sun is still good this may be done with safety, but in using extra fire-heat be very careful in respect to insect pests.

HORTUS.

FRUIT AND VEGETABLE CROPS.

SUPPLEMENTARY.

Hurworth Grange, Darlington.—In the early spring everything appeared to favour an abundant fruit crop, but the cold east winds of May had a marked effect on Apples and Plums especially, and they are much under the average. Some kinds of Apples are fair, such as Ecklinville, Potts' Seedling, Cockpit and Bismarck. Pears are thin; Apricots are good and Peaches in case fine. Cherries dropped a good deal while stoning. Bush fruit is plentiful. Strawberries are a full crop, Royal Sovereign the best. The season was short, owing to the dry weather.

Vegetables are fairly satisfactory. Potatoes are good; Peas fine, but soon over. All other kinds are up to the average. The soil of the garden here is very heavy, and a dry season suits things pretty well.—J. SIMPSON.

Madresfield Court, Great Malvern.—In this district there is a good half crop of Apples. Many of the newly-established orchards on this estate show splendid samples of fruit, especially those trees planted in conjunction with Hops. The superior cultivation necessary for the successful growth of Hops gives a most marked object lesson worthy of every imitation by fruit farmers. The trees have a healthy look, are free from insect pests, leaves large and dark green in colour, the fruit smooth in appearance and of large size. Warner's King seems to be the leading Apple of the season. On turf, with the grass allowed to grow right up to the stem, it is painfully evident to see how the roots of the grass crop have used up the moisture and nourishment from the soil, thereby starving the fruit trees, which have a yellowish, sickly appearance and fruit correspondingly undersized and stunted. The protracted drought has told heavily upon such fruit farming. I never saw the subsoil so dry before, whilst on the heavy clay soils there is such a contraction as to cause huge cracks, with the consequent rupture of best roots and the inevitable letting in of drought. Pears are also in about the same proportion as Apples, but rather more partial. Cherries on suitable land are a paying crop, and the plantations are being increased. Apricots, Peaches, and Nectarines on walls are all full crops, but much difficulty was experienced in combating insect pests of the aphid tribe. Plums are the worst crop as to quantity; still quality has been excellent and the crop extremely partial, the ever-bearing Victoria, as usual, to the front. All the Gage family are very light, Pond's Seedling and Belle de Louvain being of enormous size. Bush fruits have been good average crops, Red Currants being of very large size and of grand appearance. Strawberries have

been enormous crops, Royal Sovereign being a great acquisition, ousting a good many unnecessary sorts. Sir J. Paxton, which has given enormous crops under ordinary generous field cultivation, is quite the sheet anchor of Strawberry growers for market. The new Japanese Wineberry (*Rubus phoenicolasius*) is an acquisition grown on wires similar to Raspberries, and gives a continuous supply of red, pleasantly acid fruits suitable for dessert or for ices. I am trying the Logan-berry, another of the American introductions, for the same purpose, but I have not had sufficient experience to say anything in its favour, although some of my friends who have succeeded with it are loud in its praise.—WILLIAM CRUMP.

Stoke Park, Slough.—Fruit crops in this district have varied much this season. In spring all our fruit trees promised well, being well set with fruit-buds, which opened fairly well, but owing to the cold in May the blossoms dropped very much; a great amount of the fruit that set dropped off when quite small. Fruit trees of every sort suffered very much from blight and insect pests. Peaches flowered grandly, but owing to the continued east winds during May, the trees were almost covered with insect pests. The nights being cold and frosty soon crippled the trees, consequently most of the blossom dropped prematurely without setting; what fruit set, swelled away and was grand when ripe, the size, colour, and flavour being quite exceptional. Owing to the excessive heat and want of rain Apples are smaller than usual, excepting on some old trees of Blenheim, which were bearing heavy crops; these, having been well watered and dressed with an artificial manure, are now (September 28) quite a treat to look at, the fruit large and colouring well. All the old-established fruit trees have withstood the exceptional drought the best. Young trees heavily mulched have done fairly well also. Apples, taken all round, will be about half a crop. Pears are good on wall trees, very uneven on standards, with much smaller fruit than usual. Plums vary; some sorts had heavy crops, Kirke's Green Gage and Oullin's Golden Gage, a grand dessert Plum, being the best. Cherries are almost eaten up with insects, what fruit there was being small and of inferior quality. Quinces flowered splendidly, but all dropped; trees have in some cases flowered a second time, the result a few small, worthless fruits. Of Mulberries there are very heavy crops, the fruits large, a hot, dry season evidently suiting them. Gooseberries are an enormous crop, a fortnight later in ripening than usual; Raspberries almost a complete failure, the fruits ripening off quickly and very small. Currants are a heavy crop, the fruit smaller than usual. Strawberries were splendid in every way, President being the best from plants put out in August, 1897. Filberts are plentiful, but smaller than usual.

Vegetables were splendid in the early part of the season. On ground deeply cultivated and liberally manured all crops have withstood the exceptional drought fairly well. Potatoes, earliest sorts, are fine crops and of good quality. The heaviest croppers are Windsor Castle and Sutton's Ninety-fold; the latter an enormous cropper. Later sorts have made a second growth, which greatly impairs the quality.—D. KEMP.

Batsford Park, Moreton-in-Marsh.—Last year fruit trees generally had very light crops, and, the autumn being favourable for wood ripening, there was a splendid show of blossom this spring, Apple and Pear trees especially being pictures. There was practically no injury caused here by frost, and so far the prospect of a good fruit season was one which has seldom been surpassed. Unfortunately, in most cases it has not been fulfilled, as a dull, cold May, with prevailing north and easterly winds, seemed to give a great check and quantities of tiny fruits dropped. On the whole, the supplies here have been better than last year, though Apples and Pears are still under an average, and in many of the orchards fruits are very scarce. A few sorts grown as

garden pyramids seldom fail, and again keep up their reputation, the best Apples being Warner's King, Tower of Glamis, Magnum Bonum, Worcester Pearmain, Irish Peach (small), Cox's Orange and King of the Pippins (small), and Ribston Pippin, a nice lot on two trees that seldom fail to bear. Blenheim Orange, which is largely grown in this neighbourhood and depended upon for principal supplies, is variable and the crop generally light. Some pyramid Pears have heavy crops, notably Clapp's Favourite, Beurré d'Amanlis, Beurré Clairgeau, Vicar of Winkfield, and Gratioli of Jersey. Fruits on most varieties of better quality than these are scarce both in the open garden and on walls. Beurré Diel and Fondante d'Automne are fairly good as espaliers. Peaches and Nectarines flowered well and looked promising at that period, but later the trees were so badly attacked by blister and blight that many are almost worthless, and the fruits that remained are small and of poor quality. There has been a succession of unfavourable springs here for outdoor Peaches, which invariably weakens and disfigures the trees, because of the first growths failing to get away. Apricots did well and the trees have made healthy growth. The fruits were rather small but clean, and of fine colour, quality, and flavour. The varieties grown are Moor Park and Large Early. Plums are bearing well on walls with the exception of old Green Gage, which is nearly a failure, although the trees flowered well and had similar protection to Apricots. Bryanston, Braby's, Webster's, and Purple Gages on other walls have a very fair crop, and a similar remark applies to Kirke's, Coe's Golden Drop, Jefferson's, Woolston Black, and the Nectarine Plum. Two of the most useful kitchen Plums, Early Prolific and Victoria, are heavily laden on walls. I have to net in winter in order to preserve the buds from destruction by birds. Standard trees in the open and unprotected are practically a failure. Cherries on walls were good, and the dessert kinds, excepting May Duke, kept clean. This variety and the Morellos were in the dry weather attacked by black fly. Strawberries were plentiful and wonderfully good, very few being injured by wet, as so little rain fell in July. The season was late, not many being ripe outside until nearly the end of June, and the supply kept up well through July. Royal Sovereign, as elsewhere, was very fine, the fruit being large and of excellent quality. Keens' Seedling, Sir Joseph Paxton, and President were as good or better than usual, while Vicomtesse Héricart de Thury, although small, is still grown outside, as it can generally be depended upon for a quantity of fruits which withstand rain much better than many varieties. Gunton Park and Lord Suffield have been given a trial, and they promise to prove valuable for late supplies. Raspberries were as good as usual although rather small, probably from want of moisture. Currants of all kinds were mostly fine and clean, and Gooseberries plentiful where the bushes were netted last winter to preserve the buds. Walnuts are variable, some trees being heavily laden; other Nuts are plentiful.

Most vegetables have been good and plentiful, some being affected by the drought in July, while most of the winter crops have got away well since the rains came. The earliest Potatoes were uninjured by frost, and had clean, good crops free from disease. The haulm of the second earlies shows disease, and that of the early ones planted for succession. Magnum Bonum is chiefly grown for the main supply, and this variety has looked well. The first and second early Peas did the best of any and were very good. All the later ones in this garden have been attacked by mildew and thrips. Asparagus was plentiful, and Globe Artichokes have rarely done better, the plants sustaining but little injury through the mild winter. The land was in good condition for seed-sowing, but it was beaten rather hard afterwards by heavy rains. Beans of all kinds have been plentiful; so have Vegetable Marrows.

The rainfall in August has on two occasions been exceptionally heavy. On the morning of

the 7th the gauge contained 1.69 inches, and on the 16th the large quantity of 2.25 inches. Most of this latter fell on the night of the 15th in a heavy thunderstorm, which was of three hours or more duration.—J. GARRETT.

Elvetham Park, Hants.—Apples are abundant; Pears on the wall trees good crops, but those in the open are under average, the bloom having been injured by the late frost. Peaches, Apricots and Plums are average crops; Currants abundant; Gooseberries and Raspberries average crops; dessert Cherries average; Morellos abundant.

All vegetable crops have done well with the exception of Carrots. I have heard many complaints of the Carrot crops in this neighbourhood this year. We are now much in want of rain for the late Peas, the rainfall for June and July respectively being 1.57 inches and 0.55 inch; for August 1 to 23 only 0.93 inch.—G. MITCHISON.

THE MARKET GARDEN.

DAMSONS.

DAMSONS are among the most useful fruits we have. Being hardy and generally prolific, they require but little at the hands of cultivators, and it is on this account doubtless that many market growers both in Kent and elsewhere make a mistake. Everyone with a knowledge of the marketing of fruit has seen Damsons offered for sale and varying considerably in size, appearance, and quality. Here is a basket filled with large black, fleshy fruits that cannot fail to attract the attention of purchasers, and there another basket containing small, insignificant specimens having a half-fed look about them that is by no means prepossessing. The difference may be traced to good and poor varieties, or it may be owing to soil and situation, and again it may be, and often is, owing to treatment at the hands of the cultivators. Though Damsons are amongst the most accommodating of fruits, they appreciate good treatment, and if growers would always insist on pouring the liquid sewage from the farmyard, which often runs to waste, on to the roots of the Damson trees, a marked difference would be apparent in the quality of the fruit. Damsons are often treated as a chance crop of the farm, receiving but little attention in comparison with other fruits, and yet very often they play an important part on the profit side when the time comes for making out the balance sheet.

The keeping qualities of Damsons are much superior to those of most of the popular varieties of Plums, and therefore, by judicious management in gathering, storing and marketing in seasons of glut, fruit may be kept till after the rush is over and better prices can be realised. I know several growers, who are thoroughly conversant with their business, that use great judgment in the sale of their Damsons. If the market is crowded at the outset, they hold back a quantity of the fruit, which is kept in good condition after picking by spreading it out on shelves or on the floor of a cool, airy compartment, looking it over regularly and picking out any that may go bad. In a suitable place, Damsons spread out in this manner will keep longer than Plums, and when so treated, instead of realising prices that do not pay for picking, they give good returns after the glut is over. For home use I have known Damsons to be kept in good condition till after Christmas. Any crop that serves a double purpose cannot fail to be profitable one way or the other, and the Damson is one of these. Damsons are hardy, and form an excellent shelter in breaking the force of the wind from plantations of more tender fruits. In Kent

the Damson is largely grown for shelter, and fields of bush fruit may often be seen with rows of Damson trees along the sides most exposed to the wind. The growers as a rule pay careful attention to the bush and other fruits inside the plantations, pruning, digging, and manuring according to their requirements, but the Damsons demand no such close attention. When once planted on a suitable soil the trees want no pruning-knife to keep them shapely or assist their fruiting. All they need is sufficient room to grow at will, and if a little help in the way of sewage or liquid manure can be given, so much the better.

Though Damsons are hardy and prolific as a rule, they will not grow everywhere alike. It is very easy to see when Damsons are at home both from the appearance of the trees and the rapidity with which they increase, and it is a peculiarity about them that they are to be found growing in quantity in chosen localities, outside of which they are not a standard crop. This peculiarity of the Damson does not appear to be confined to any one county, and though in Kent Damsons are grown much more largely in some districts than others, the same thing is noticeable in other parts of the country. Staffordshire cannot be considered a fruit-producing county except as regards Damsons. The district I refer to is in close proximity to the river Dove, and for a radius of some miles Damsons may be said to be truly at home. The land is mainly pastoral, and dairy farming is the industry that pays the rent. But the Damsons also play their part, and the fruit here is purely a farm crop. To almost every homestead is a Damson orchard, and in some seasons the returns from this are very considerable. On the sloping hillsides where the soil is deep and the pasture superb for dairy purposes the Damsons are large, oval, and fleshy, while in other districts, where the sandstone lies close to the surface, the fruit is not nearly so large or of such good quality. Not only in orchards, but in meadows and along the hedgerows do Damsons grow freely. The trees are chiefly raised from suckers and transplanted in rather a rude manner to their permanent quarters. No pruning or after attention is given except in some of the orchards where manure, liquid or solid, is applied, though no doubt the continual grazing of cattle adds much to the welfare of the trees. The fruit is chiefly disposed of in the local markets, or is sold to dealers who hail from the great manufacturing towns in the midland counties. Prices vary much according to the crop. In seasons of plenty the prices are so low that they hardly pay for picking, though probably this state of affairs is owing to the want of better methods of distribution, because it must be borne in mind that fruit-growing in Staffordshire is not a main industry, as is the case in Kent. Dairying is the farmer's occupation, and his Damsons are an adjunct, to be disposed of in the readiest market. This year the Damson crop is light, and consequently prices are high. Only recently I was in a local market where farmers drove in with their butter, eggs, poultry, and hampers of Damsons. They were all displayed in old-fashioned style along the edges of the pavement, and in a mysterious way peculiar to the market through long custom the price seemed to set itself. The market was by no means glutted, and the price generally asked was considerably over a pound a bushel. Dealers bought up the fruit and despatched it elsewhere for various purposes, as Damsons are not only used for cooking and preserving, but also in the manufacture of colours. Staffordshire Damsons are not locally

known by any particular name, though the difference in shape and character proves that there are several varieties. In other counties the same peculiarity of the Damson in its preference for locality is noticeable. Kent also has its Damson districts, though the methods of cultivation and distribution differ from the illustration I have given.

The ease with which Damsons may be propagated has not altogether proved a blessing, as it has resulted in the extensive growing of some small insignificant sorts that are not honoured with a name. They may grow well, but the presence of the fruit in the market has the effect of keeping down the price for the best samples. In some districts there are plantations consisting of Damsons as standards with bush fruits underneath, and such sorts as Prune, King of Damsons and Bradley's King are grown. Again, the continual planting of suckers to raise fresh trees often results in barrenness, and I have known Damsons so raised to grow for years without fruiting, there being no other apparent cause for the failure except this.

In Kent Damsons come in among the last of the stone fruits, and most of them are disposed of through salesmen in the London markets. The crop is an important one, and last year many growers had good reason to thank their Damsons for the substantial addition they made to the returns. This season crops vary considerably, as in some districts trees are well laden, while in others fruit is scarce. Late frosts and blight are the bane of Damson growers, and this season the latter has been the chief enemy. Damsons grown in valleys and by the side of water often suffer through frost when in bloom, whereas those growing on higher ground escape. This season has been a most prolific one for all kinds of enemies and pests, and Damsons, alike with other fruits, have suffered. During the early part of the summer the trees were smothered with aphides, fruits in an early stage withered and fell, and trees presented a miserable appearance. This state of affairs was not so bad everywhere, and where the trees escaped or were not badly affected there is a fair quantity of fruit.

G. H. H.

CUT FLOWERS IN VASES.

Not only to flowers should attention be directed, but also to the many and various kinds of foliage and grasses that may be used in arranging the same. Many of our hardy flowers which at present are more often found in cottage gardens might find a welcome where previously the selection had been confined to the products of the stove and greenhouse. In small establishments it is no easy matter to keep up the necessary supply from plants grown under glass, and a notice from time to time of the best, or at least the most suitable, subjects would be welcome. Then the range of hardy foliage and grasses is so wide, that from spring until the late autumn a wealth of material is available.

How often does one meet with most incongruous arrangements, and these frequently placed in most prominent positions. Violent contrasts, too, are often met with. The complicated arrangements in the epergnes staged at our leading exhibitions can only be considered beautiful when they are lightly and artistically adjusted with a proper blending of the colours and also with appropriate foliage added. Unfortunately, this is not often met with, and the best that can be said of many of them is that they are a very

mixed lot. The epergne seems to be falling into disuse, and vases, hand-baskets, &c., are more often used for table decoration. This seems to have many advantages, as greater novelty may be had from time to time. A fault with many is crowding the different subjects. Some of the most charming vases of flowers have been arranged in the simplest possible manner, and I can call to mind a large handful of Tea Roses, cut with long stems and with a profusion of richly tanned foliage adhering, simply dropped into a vase of suitable dimensions. The flowers of the Tufted Pansy have been treated similarly and placed into a shallow bowl of water with the happiest results. The huge blossoms of the Oriental Poppy, cut with long stems, give a most imposing and noble effect. Eight to twelve blossoms are ample for arranging in the largest vase, and then each flower has its own tale to tell. For the smaller vases during the summer what prettier subject than the Sweet Peas could be chosen? If these be cut with long stalks and a few pieces of the haulm and also a few buds for associating with the flowers, additional foliage is absolutely unnecessary. In the early summer the handsome blossoms of the herbaceous Peonies are often in demand for large vases, and the blossoms of the Tree Peonies are also equally useful. The great variety and wealth of colour and form of the Narcissi stamp them as indispensable for use in the spring. The season of these blossoms is now so long and continuous, that they are invaluable for all forms of decoration. It is important that their own foliage be freely used.

The accompanying illustration shows a very beautiful vase arranged with *Gladiolus The Bride*, with hardy Ferns and grasses in association, proving that a simple and unorthodox arrangement creates a far happier effect than the more stereotyped method of filling a vase could ever do. Coming to the present season, one can fully appreciate the use of some of the best of the *Helianthus*. H. Miss Mellish,

with its long, stout footstalks, is a handsome subject to use, and cut with buds and blossoms an artistic finish is easily obtained. The smaller and profuse blossoming sorts are seen to greater advantage in the smaller vases. Some of the Michaelmas Daisies are also useful for cutting. Of all flowers used I should think these are the simplest to arrange. Three or four sprays of the branching sorts placed in a large vase are a picture in themselves. No

stems, and thus rendered useful for more imposing decorations. Brightly coloured pieces of *Ampelopsis* are invaluable for adding to the richness of the colouring of the yellow, bronze, and crimson sorts. In November the large exhibition blooms may be turned to account. Six blooms with sprays of the scarlet Oak and similarly highly-coloured foliage will make a display of the handsomest kind, and as the flowers in a cut state last so long when the



Gladiolus The Bride, Epimedium foliage, Ferns and grasses in a vase. From a photograph by Mrs. Wakeman-Newport, Sandbourne, Bewdley.

foliage beyond their own is needed. With the Chrysanthemum season fast approaching, one's thoughts naturally tend in that direction. As the blossoms may be had during five or six months in the year, the Chrysanthemum deserves more attention than most other subjects. The hardy border sorts are invaluable for cutting, and now embrace many rich shades of colour. When these hardy sorts, many of them handsome Japanese flowers, are grown without dis-budding, they may be cut in sprays with long

water is renewed from time to time, the house may present a bright appearance for a considerable period. The leading Chrysanthemum societies are beginning to realise that a much better effect may be had with large blooms arranged in vases.—D. B. CRANE.

Mrs. L. Wakeman-Newport, who kindly forwarded the photo, in referring to the arrangement of the flowers, says:—

Nothing is more useful for decoration than *Gladiolus The Bride*. A few sprays in a tall

glass vase, accompanied by suitable grasses or the foliage of *Iris sibirica*, give you at once a simple and effective arrangement. This *Gladiolus* is as easily grown as a *Crocus*. Plant the bulbs in November in light soil, and put on the top of the ground a little straw or a few ashes to keep frost out. They then require no more attention till June, when they will be a waving mass of lovely white sprays. The accompanying illustration shows The Bride arranged with Male Fern, *Hordeum jubatum*, and leaves of the *Epimedium*. The lovely pink-tinged grass and young pink *Epimedium* leaves contrast prettily with the delicate white blossoms of the *Gladiolus*.

CHRYSANTHEMUMS.

NOTES ON CHRYSANTHEMUMS.

IN my notes of a week or two back I stated that in my own as well as in other cases the plants appeared especially free from pests and so on, and that individual varieties had escaped usual troubles. Since then, however, something has made havoc among the buds of the variety *Mme. Carnot* and its sport *G. J. Warren*. They (the buds) seemed to be swelling freely, but all at once stopped. On examination many were found black and decayed in the centre. I caught several little green maggots buried in the buds, and fancy it is these which do the mischief. Other collections since visited assure one of a trouble more than local. In one instance, out of a score of plants the cultivator will not get half a dozen perfect blooms. Other sorts, too, are affected—for instance, *Lady Byron*, *Simplicity*, and *Western King*. It is strange how certain kinds are picked out for such destruction. Thrips damage the swelling buds to some extent, but I do not think the wholesale losses of this year are caused by so tiny a pest. Later formed buds of the varieties named do not appear touched, due no doubt to the return of less sultry weather.

Seldom have *Chrysanthemum* blooms grown for exhibition opened so early as this year. Fully-developed flowers of *E. Molyneux* and *Phœbus* are not usual in September. The buds generally are early this year and are advancing most rapidly. This season is unlike others that have passed in many ways. Ever since the plants were put entirely in the open we have not had any rain to speak of, and now (September 23) frost severe enough to blacken the leaves of *Dahlias* is recorded. I shall house mine without delay. Not that slight frosts hurt the buds before they burst, but it is hardly advisable to take any risks when so much time has been given to the *Chrysanthemum* for some months past. New sorts of much promise are unfolding their florets. General *Païque* thus early should be noted. It has flowers like the sort called *Golden Gate*, a distinctly handsome bloom in shape and colour. Its fault is that it is late. This detracts from its merits, at least from an exhibition point of view. President *Bevan* is another most promising new sort. Both are *M. Calvat's*, whose latest productions, now being grown in this country for the first season, seem likely to enhance his reputation. There is no mistaking them in their fine habit of growth and bold bloom. *Mme. G. Bruant*, a variety of last year, is very fine, of a clear colour, large in size, and of graceful form. *Edith Tabor*, the finest of all yellows when in form, is opening well. So is *Mme. Gustave Henry*, a capital amateur's flower, being dwarf in growth and a handsome blossom, also of easy culture. *M. Hoste* will be fully out in October. This should be noted. It is a very dwarf kind of easy culture, and produces well-shaped blooms of good quality, the colour being bluish-white. *Werther* may be called an improved President *Borel*, a sort much esteemed a few years back. It is naturally early, and its colour bright purple-rose, decidedly showy. The growth, too, is desirable.

Among September-flowering kinds, the bronzy *Louis Lemaire* is an acquisition. The note in

THE GARDEN, page 249, commends it as exhibited recently. Being a sport from *M. G. Grunerwald*, it has the dwarf, free-flowering habit of that variety, and I think is the most satisfactory when the plants are not disbudded. *Mme. Marie Masse* is first-rate with me; quite the best pink early *Chrysanthemum*. The plants are not more than a foot high and are flowering profusely. The new peach-pink variety, *Mary Molyneux*, is doing well and opening the blooms freely. This English-raised flower ought to be seen in fine condition during the autumn. It is a rather tall grower, unfortunately. Late-struck cuttings of it have made capital specimens in 6-inch pots, and look like producing first class blooms, one to each plant.

Interest in new sorts will this year be keen owing to the introduction of many Australian seedlings besides the usual continental novelties. The former are evidently chosen on account of sturdy constitutions as well as for the beauty of the flowers. This is a proper thing to do, for a variety, however fine its blossoms, is not satisfactory if a bad doer. President *Nonin*, a kind thought very fine last year, is not doing well this, and will be discarded. I have noted it as a bad grower in other collections. The new variety, *Joseph Chamberlain*, will be valuable if it retains the character of last year, crimson *Chrysanthemums* being much wanted. The range of colour is none too varied when one considers the great number of novelties introduced each year. H. S.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

FRUIT SHOW, CRYSTAL PALACE, SEPTEMBER 29, 30, AND OCTOBER 1.

THIS exhibition, which is now looked upon as an annual one by fruit growers throughout the kingdom, was held on the above dates. It must be pronounced an unqualified success both in its extent and in the high average excellence of the exhibits. Having seen and taken note of each of these displays, we have no hesitation in saying that for all-round excellence it was the finest show yet held in the Crystal Palace under the auspices of the Royal Horticultural Society. Exhibitors of second-rate produce have now found out that it does not pay to come with their products, hence the high standard to which these shows have now attained. The number of exhibits was possibly less than last year, but it was in the number of dishes of individual fruits that a decided advance was to be noted. This arose from the greater competition in the collections, which made up fully for any falling-off in other respects. The marked superiority of the Kentish fruit was again manifest in both size and maturity, but not so much so as regards colour. On this occasion the finest coloured fruits of both Apples and Pears, notably the former, came from the western and south-western districts. There was a far higher degree of colouring manifest in the Apples from Dorset and Devon than in those from Kent, Sussex, or Surrey. This is no doubt easily explained from the fact that in the first-named counties the rainfall has been greater, consequently the moisture in the atmosphere has acted beneficially in this respect. Some districts have suffered to a serious extent during the long-continued drought, hence the resources of the trees have been severely taxed. The collections included in almost every instance fruit of the finest possible quality. The mixed collections of indoor and outdoor fruits stood high as regards quality. Two only, however, competed in the larger class of twelve dishes, which is at least two dishes too many at this

season of the year. It is only in the largest and best appointed gardens that twelve dishes of all-round excellence can be chosen, hence many are precluded from staging their fruit who would otherwise do so. Proof of this is forthcoming in the fact that on the present occasion the competition was much keener in the smaller class of eight dishes. The better arrangement would be to have three classes for collections of fruit for ten, eight and six dishes respectively. The small grower has no chance in the larger, whereas he might have in the smaller. Even the largest growers are put to straits in making up their numbers at times; this occurred at the recent show in one case at least, wherein both *Negro Largo* and *Brown Turkey Figs* were staged as one dish, which, according to the schedule, should be of one variety only; presumably this escaped detection by the judges in their scrutiny. The collections of both orchard-house and outdoor fruit were more extensive than last year, whilst the quality was excellent. Both Apples and Pears betokened thorough maturity, whilst from point of size there was nothing lacking even from the drier districts. Peaches, Nectarines, and Plums were shown in the greatest profusion, there being a distinct gain in these fruits from point of number and quality also; in fact, very rarely, if ever, have fruits of such high quality been staged. Grapes did not, on the whole, show any advance, whilst the number of bunches was less than usual. The finest white Grapes in the show were beyond any question the premier trio of *Muscat of Alexandria*. The best black Grape shown was *Mrs. Pince*, being absolutely perfect in finish and at the same time large both in bunch and berry. The nurserymen's classes were as usual the sources of great attraction, the well-known growers vying with each other to do their best. The new classes for different sections of the country were a distinct success and productive of much interest. The miscellaneous exhibits also stood out prominently for their general excellence. One practice rightly condemned by the judges was that of actually polishing the Apples; this cannot be too strongly condemned whilst still in the bud.

The arrangement of the show was all that one could wish; there was no symptom of overcrowding. A few blanks, on the other hand, did occur through failure in staging the respective exhibits as entered. This should be checked in some way, and that by radical measures if the exhibitor does not before the show day withdraw his or her entry.

It is to be earnestly hoped that means will be provided whereby the council of the Royal Horticultural Society will be enabled to continue these exhibitions of fruit at the Crystal Palace. This will depend upon the amount of support they receive from fruit growers and enthusiasts throughout the country. It is noticeable upon scanning down the lists of the past schedules that many who exhibit do not in return give any monetary support. This is, to say the least, not as it should be. Others appear to be eager enough to compete when money prizes are offered, yet do not put forth their exertions to aid the society at its fortnightly meetings at the Drill Hall.

DIVISION I.—FRUITS GROWN UNDER GLASS OR OTHERWISE.—GARDENERS.

For a collection of twelve dishes of ripe dessert fruit there were only two entries, both of which were good, but the adjudication of the prizes did not give the judges many anxious moments. Mr. McIndoe, gardener to Sir Joseph Pease, Hutton Hall, Guisboro, Yorks, was well to the front with

a uniformly good collection of well-ripened fruit. It consisted of Gros Maroc and Muscat of Alexandria Grapes, both well coloured; a fine Pine-apple, The Queen, as it ought to be shown, with fully developed pips; a Melon, The Champion, large and well netted; two dishes of Peaches, Admirable (?), yellow flesh, and Sea Eagle; one Plum in Bryanston Gage, a little short in colour but not in size; two of Pears in Souvenir du Congrès and Williams' Bon Chrétien, both excellent; one of Apples, Washington, extra fine and well coloured; and one of Figs, composed of Negro Largo and Brown Turkey mixed. Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was the other competitor, his collection being composed of one Queen Pine of medium quality; two dishes of Grapes, Black Hamburgh, extra fine bunches, a strong dish, and Muscat fine in berry; two dishes of Apples, Gascoigne's Scarlet and Washington, the former the finer in appearance; two dishes Peaches, Gladstone, very good, and Exquisite, medium only, and wrongly named Sea Eagle; two lots of Pears, Doyenné Boussoch and D. du Comice, both excellent dishes; Pine-apple Nectarine, Countess Melon, and Coe's Golden Drop Plum. For eight dishes of fruit there was keen competition. The first prize was awarded to Mr. Jas. Dawes, gardener to Mr. M. Biddulph, Ledbury Park, Glos., who had of Grapes Gros Maroc, extra fine in bunch, berry, and colour, and Muscat, long tapering bunches, well finished; Princess of Wales Peach and Pine-apple Nectarine, both first-rate dishes; Worcester Pearmain Apple, highly coloured; Coe's Golden Drop Plum, poor in colour; a good Melon, and a clear fresh dish of Williams' Bon Chrétien Pear. Mr. Tidy, gardener to Mr. D'Arcy, Stanmore Hall, was a near second, his best selections being Muscat and Black Alicante of Grapes, both well finished; Sea Eagle and Walburton Admirable Peaches, the latter finely coloured; Humboldt Nectarine, characteristic fruits, highly coloured; Lady Sudeley Apple, large and clear; and Kirke's Plum, which had kept well. For a collection of six varieties of Grapes, two bunches of each, Mr. Goodacre was fortunate in being placed first (some experts present would only have placed him second). The best examples were Muscat, Madresfield Court and Gros Colman, all of which were quite up to the mark, whereas Gros Maroc was deficient in size, and Black Hamburgh with Black Alicante lacked colour. Mr. F. Cole, gardener to Sir Charles Russell, came a very near second indeed, to say the least. Here the Black Hamburgh was better in colour, as also was Alicante. Gros Guillaume and Appley Towers were the other black varieties, both being well finished; Muscat not so good as in the first prize lot, and Foster's Seedling, extra good, completed this exhibit. For Grapes in three varieties Mr. Dawes was again to the front with handsome bunches of Muscat, Gros Maroc, with medium berries, well coloured, and Black Alicante, rather lacking in colour. Mr. A. Belcher, gardener to Sir E. H. Carbutt, Nanhurst, Cranleigh, Surrey, was placed second, the Muscat there being inferior to those of his antagonist, but in black Grapes he was better in colour. This was quite evident in Alicante, whilst Gros Guillaume was compact in bunch and well finished. Black Hamburgh was shown best by Mr. F. Cole, who scored in colour and berry, it being a fine exhibit. Mr. W. Mitchell, gardener to Mr. J. W. Fleming, Chilworth Manor, Romsey, who is rarely beaten for this variety, was so in this instance. The berries were larger, but the bunches were smaller, the colour alike good. For Madresfield Court the competition, on the other hand, was not so good. Mr. Mitchell was an easy first; his bunches were excellent in colour and berry. Mr. J. Jones, gardener to Mr. F. Need, York House, Malvern, was placed second, colour being deficient here. In the class for Gros Colman or Gros Maroc, the latter variety stood pre-eminent, all three prizes being awarded to it. The best bunches by far both in berries (very large) and finish were staged by Mr. Allan, gardener to Lord Suffield, Guntton

Park, Norwich; these were heavy clusters. Better colour, perhaps, was evident in the second prize bunches from Mr. Mitchell, but the berries were smaller. Black Alicante is invariably shown well at this exhibition. On this occasion Mr. W. Allan won the first prize with huge, heavy, well-finished bunches, showing the tendency towards a duplex character. Mr. W. Howe, gardener to Sir H. Tate, Park Hill, Streatham, was second with smaller bunches. The class for Lady Downe's was not so well filled. This fact need not call for any surprise, as many exhibitors might hesitate in cutting a Grape now which will keep easily and improve in flavour at Christmas. Mr. Taylor, gardener to Mr. C. Bayer, Tewkesbury Lodge, Forest Hill, was first with very handsome clusters, well finished, and Mr. W. H. Bacon, gardener to Sir Marcus Samuel, Mote Park, Maidstone, second with large bunches not well coloured. For any other black Grape, Alnwick Seedling was the variety shown most, but it neither won the first nor the second prizes, although well-coloured clusters were staged. The first award went to Mr. Mitchell for Mrs. Pince's Muscat. He has shown this Grape well on previous occasions, but never so fine as these; they were superb bunches, coloured to perfection. The second prize was awarded to well-finished bunches of Appley Towers from Mr. Hudson. For Muscat of Alexandria the competition was not quite so good as usual, but it was keen as between the first and second prize winners. Mr. A. R. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge, won a well-deserved first with huge bunches, clear in the berry and well finished. Mr. Duncan, Warnham Court, Horsham, was a very close second with fine, shapely bunches fine in the berry. With Mrs. Pearson (not shown extensively), Mr. Empson, gardener to Mrs. Wingfield, Amptill House, was first with clear, clean clusters with large berries. In the second prize lot from Mr. Reynolds, gardener to Messrs. de Rothschild, Gunnersbury Park, the bunches were better coloured. With any other white Grape, Chasselas Napoleon from Mr. Reynolds was easily first, being staged in grand condition, possibly never better in colour, berry, and bunch. Mr. G. Lane was second with the same variety. For Figs the competition was not keen, being quite a contrast to last year. Mr. Mitchell was first with a good dish. For a collection of hardy fruit, not more than thirty-six dishes, grown partly or entirely under glass, Mr. R. Potter, gardener to Sir Mark W. Collett, St. Clere, Kemsing, Kent, was first, and Mr. McIndoe second, both of whom showed Grapes in good condition, but how Alnwick Seedling and Gros Maroc Grapes can be termed "hardy," i.e., hardy as grown and shown, requires some explanation. Mr. Potter had in addition some grand examples of Pears and Apples as well as other fruits, but one dish of Pears only contained three fruits, whereas the schedule stipulates six. True, they were large enough, but, large or small, let the numbers be adhered to. Mr. Potter was also first for not more than fifty dishes of hardy fruits grown entirely in the open air, having similarly fine Pears and Apples to those in his first prize lot of orchard house fruit, many of the examples showing extra development for outside fruit, the whole forming a strong exhibit such as makes the Kentish growers hard to beat. Mr. John Powell, gardener to Colonel Brymer, Ilslington House, Dorchester, was placed second, he pressing his antagonist hard, and being in turn pressed hard himself by other unsuccessful exhibitors.

DIVISION II.—NURSERYMEN ONLY.

In these classes we would like to see more competition, the large number of miscellaneous exhibitors showing that there is no lack of material. Messrs. Bunyard and Rivers were the leading exhibitors in the nurserymen's classes. In the class for a collection of fruit trees in pots bearing fruit, Messrs. Rivers and Son, Sawbridgeworth, secured the gold medal which was offered as first prize, the firm well sustaining their high character as fruit growers. The trees were remarkable

examples of high culture. A grand seedling yellow Peach laden with fruit formed the centre, there being smaller trees at the corners, the kinds being Albatross, Gladstone, Lord Palmerston, and seedlings. In this group were the best pot trees of Plums we have ever seen, the varieties being Pond's Seedling, Golden Drop, Rivers' Late Orange, a very fine late Plum, having grand colour, and seedlings. Very fine dwarf Apple trees formed the margin of the group, the most noticeable being Bismarck, Blenheim Orange, Emperor Alexander, the Melon Apple, Bijou, and several varieties of Figs. In the collection of hardy fruits grown partly or entirely under glass, Messrs. Bunyard and Co., Maidstone, secured the gold medal, this being the premier award. This collection was remarkable for the pot trees, these forming the background of the group and comprising the best kinds. The Pears in this collection were specially fine, Durondeau carrying immense fruits, Doyenné du Comice, Pitmaston Duchess, and Vicar of Winkfield being the other pot varieties. Peaches were good, Lady Palmerston being the variety mostly staged. Plums also were remarkably fine, Grand Duke being very large. The gathered fruits were equally fine, Conference, Marie Louise, Glou Morceau, Beurré Hardy, Beurré Diel, Marie Benoist, Pitmaston Duchess, and Emile d'Heyst Pears being the best. Sea Eagle and Nectarine Peaches were also good. The Apples, including Peasgood's Nonsuch, Gascoigne's Scarlet, Belle Dubois, Cox's Orange, Cornish Aromatic, Ribston Pippin, and other dessert, were excellent kinds. There were also nice fruits of Fig Bourjassotte Grise and other varieties. In the class for a collection of not less than seventy-five nor more than 100 distinct varieties of hardy fruits grown in the open air, two lots were staged. Here Messrs. Bunyard and Co. secured the premier award, as also the Dr. Hogg Memorial medal. We did not care for the centre pyramid of fruit surmounted by a tall Kentia, this looking far too artificial and stiff. The corners were more graceful, these being built up with highly-coloured Apples, such as Cellini, Lady Sudeley, Bismarck and Gascoigne's Scarlet. There were very fine fruits of Peasgood's and the new Allington Pippin. Duchess of Oldenburgh, Wealthy, Okera, a Swedish variety of great excellence, Worcester Pearmain and The Queen were well represented. Pears included Grosse Calebasse, Pitmaston, Souvenir du Congrès, Williams' Bon Chrétien, Mme. Trevey, Dr. Jules, a grand dish, and Beurré Mortillet. Plums in variety were also shown here. The second place was well filled by Mr. H. Berwick, Sidmouth, Devon, this table being tastefully decorated with Crinum, Asparagus and Ferns. The fruit in this collection was beautifully coloured, though not equal in size to the first-prize lot. The best Apples were Emperor Alexander, Gravenstein, Bismarck, Col. Vaughan, and Cox's Pomona. Pears were very good also, there being very fine fruits of Pitmaston, Grosse Calebasse and other stewing varieties. There was a better competition for from thirty to fifty distinct varieties of hardy fruits, there being very little difference between the first and second prize lots. The premier award went to Mr. Geo. Mount, the Rose Nurseries, Canterbury, whose collection was nicely set up, there being large mounds of Bismarck, Cox's Orange, Peasgood's Nonsuch, Worcester Pearmain and Gascoigne's Seedling, with excellent dishes of Lady Sudeley, Mère de Ménage, Cellini, Lord Derby, Lane's Prince Albert and The Queen Apples, with a few Pears. This was given the silver-gilt medal. The second prize went to Mr. T. Colwill, Sidmouth, the Pears in this collection being very good and the Apples grandly coloured, with splendid Peaches, Raspberries and other fruits. In the class for thirty-six distinct varieties of Pears only one lot was staged, this showing the scarcity of this fruit. In some of the dishes the fruits were smaller than usual. Mr. H. Berwick was the exhibitor, his finest lot being a remarkable dish of King Edward. Pitmaston was very fine, also Beurré Hardy, Durondeau, Beurré d'Amanlis,

Beurré Clairgeau, Knight's Monarch, Beurré Baltet père and Beurré Bachelier. For a collection of fifty dishes of Apples there was an excellent competition, and here Mr. Colwill was a good first, his fruits being of better colour than the others staged. Emperor Alexander, The Queen, Cellini, and Red Bietigheimer were beautifully coloured. Tyler's Kernel, Bismarck, Bramley's Seedling, and Washington were very good among the cooking fruits, whilst Wealthy, American Mother, Duchess of Oldenburg, Worcester Pearmain, and Lady Sudeley were excellent dessert varieties. Mr. J. Basham was second, having fine fruits, but much marked with the netting which had covered them. Here were grand fruits of Tower of Glamis, Stirling Castle, and The Queen.

DIVISION III.—MARKET GROWERS.

This was a new class this year, and we would have liked to have seen a better competition. There was no question as to quality of the exhibits, but they lacked numbers and there was nothing new in the packing; indeed in a few instances the fruit was not well packed, as we noticed some had been bruised, and Grapes in many cases had lost a deal of their bloom. The first class was for 12 lb. of Hamburg Grapes in a fine wicker or baby basket. Only one lot was sent, and this being of poor quality the award was withheld. In the next class for any black Grape except Hamburg there were two competitors, only one prize being awarded, this going to Messrs. W. and C. Wells, Hattonhurst, Hounslow, who showed well-coloured Gros Colman. The flat basket was fitted into a box, and this appeared to be a good system. For white Grapes, any variety, packed in a single layer, there was only one exhibit. This being Muscats of poor quality and badly rubbed was passed over. For Grapes packed in any other way there was one exhibit, and this was given first prize, Mr. J. Gore, Polegate, Sussex, receiving the award. These were packed in an ordinary hand-basket lined with tissue paper, the bunches being tied to the sides. The fruit had travelled without the least injury. For four varieties of cooking Apples in boxes or baskets, 42 lbs. in each, the first prize went to Mr. E. Basham. The baskets, nearly a foot deep, were oblong with lids, and contained two layers of fruit packed with wood shavings. The fruits had travelled grandly, and the cost of baskets was small. The second prize went to Mr. A. Wyatt, Hatton, Hounslow, who used ordinary market sieves lined with paper. The fruit was in good condition. In the class for dessert Apples, four varieties, about 20 lbs., packed in baskets or boxes, Mr. Wyatt was first with excellent fruit, having highly coloured Cox's Orange, Worcester Pearmain, Duchess Favourite and King of Pippins. So far as we could observe the packing showed no new features, the ordinary market sieve being employed. Mr. G. Tebbutt, Isleworth, was second with smaller fruits, not so highly coloured. The corresponding class for cooking Apples brought forth more competition, there being five lots staged, the premier award going to Mr. Tebbutt for a very fine lot of Lady Henniker in a market sieve, Mr. A. Wyatt being second with Wellington in a similar package. The next class appeared to find more favour with exhibitors. There were six entries for 20 lbs. of dessert Apples, the leading exhibitor being Mr. McKenzie Bradley, Leyland, Meopham, Kent, who had fine Cox's Orange. We fail to see how a basket filled so high could be sent to market without damage if placed on another as is necessary. Mr. J. Jenner was second with the same variety. The next class should have been an interesting one. This was for 42 lbs. of Apples, any variety, showing an improved form of packing, but there was only one entry, and this was not considered worth the award. They were in a box in layers, without packing of any kind, merely a layer of wood wool on the top. The class for Pears in two packages of two varieties of 20 lbs. each, only brought three exhibitors, Mr. Wyatt being first with fine

fruits of Pitmaston Duchess and Williams' Bon Chrétien in ordinary market sieves. For twenty-four to forty-eight fruits, according to size, of any one choice dessert variety of Pears, packed in one package, there were four competitors, Mr. Wyatt being first with an even lot of Beurré Bosc, there being two and a half dozen fruits placed close together on wood wool with pink paper divisions, Messrs. W. and E. Wells being second with good Souvenir du Congrès in a similar package. The next class was for cooking Plums in a basket or box of 28 lbs., one variety. There were only two lots, Mr. Darling, Ightham, Kent, being first for a small basket of Pond's Seedling. For a basket or box of 28 lbs. of Damsons, Mr. Darling was first with Farleigh Prolific. For Peaches, twenty-four fruits, packed in a box suitable for market, the packing and system to be especially considered by the judges, Mr. J. Gore, Polegate, was a good first, having grandly coloured fruits of Nectarine Peach and Sea Eagle. These were packed in tissue paper with wood wool. The judges recommended a special prize in addition for the excellence of packing. The second prize went to Mr. Miller, Ruxley Lodge, Esher. Surely there must be an error here, as this exhibitor is not a market grower only. In the class for 20 lbs. of nuts there were three entries, Mr. J. Jenner, Tonbridge, being first with large Kentish Cobs in a basket, and Mr. Darling second. The class for Tomatoes was an interesting one, and brought forth five exhibitors, the first going to Mr. Gore for nice fruits in layers in an ordinary handled market basket, the Froome Fruit and Flower Company being a close second with medium-sized fruits in a similar package.

DIVISION IV.—FRUIT GROWN IN OPEN AIR.

These classes did not bring forth the competition seen in past years. This was doubtless owing to the drought and heat in many cases. For twenty-four dishes of Apples, sixteen cooking and eight dessert, Mr. G. Woodward, Barham Court Gardens, Maidstone, secured the first prize, he being the only exhibitor. He had a very fine lot of fruit, which, however, lacked the size and colour of recent years. The cooking kinds most prominent were Peasgood's Nonsuch, Mère de Ménage, Bismarck, Emperor Alexander, Gascoigne's Scarlet, Stone's, Lord Derby, Alfriston, Ecklinville, Tower of Glamis, and Waltham Abbey Seedling; the dessert, Wealthy, Ribston, Mother, Cox's, and Worcester Pearmain. For twelve dishes there were six entries, and here Mr. Miller, West Farleigh Gardens, Maidstone, was a good first, having splendid fruits of Yorkshire Beauty and Ribston, the second being very close indeed. For nine dishes three lots were staged, Mr. Daws being first with grand dishes of Tyler's Kernel and Beauty of Kent, with excellent dessert varieties, Mr. W. Slogrove, Gatton, Reigate, being second. For six dishes of cooking Apples there were five entries, Mr. Woodward taking the premier position, having similar varieties to those named above, Mr. G. Loch, Newcombe Gardens, Crediton, being second. The fruit in the second prize lot had been very much polished, and we were pleased to see a note from the judges on the prize card condemning this stupid practice. For three dishes eleven competed. This shows the advantage of having small classes. Mr. A. Maxim, Heckfield Gardens, Winchfield, was first, having three grand dishes of Warner's King, Lady Henniker and Emperor Alexander, Mr. Lee being second. For six varieties of dessert Apples Mr. Woodward was a good first with beautiful fruits of Wealthy, Washington, Ribston, Cox's, Worcester Pearmain, and American Mother, all well coloured. There were four lots staged, a great falling off from previous years. For three dishes Mr. A. Pentney, Worton Hall Gardens, Isleworth, was first, having good fruits of Ribston, American Mother, and King of Pippins. Mr. J. Tallack, Livermere Park Gardens, Suffolk, was a close second with good fruit. There were thirteen lots in this class. For dessert Pears, twelve dishes, Mr. Woodward was again in the leading place, there being three exhibitors. The

fruits were not equal to those of past years. The best were Beurré Mortillet, Durondeau, Gansel's Bergamot, Triomphe de Vienne, Doyenné du Comice, and Duchesse d'Angoulême. Mr. W. Allan, Gunton Park, Norwich, took the second place with grand Doyenné Boussoch and others. For nine dishes, Mr. Pragnell was first out of four lots, having grand Beurré Diel, Marguerite Marrilat, and Beurré Superfin, Mr. J. Powell, Ilington House Gardens, Dorset, being an excellent second, having one of the best dishes of Souvenir du Congrès in the show. For six dishes, Mr. Sage, Bayham Abbey Gardens, was first out of ten competitors, having very fine fruits of Doyenné du Comice, Gen. Todtleben, and Pitmaston Duchess, Mr. W. A. Cook, Compton Bassett, Wilts, being a good second, he having fine Marie Louise. For three dishes, nine lots were staged, Mr. R. Edwards Offord, Sevenoaks, being first, and Mr. Fennell, Fairlawn, Tonbridge, second, both having fine fruit. For cooking Pears, Mr. Woodward was first in a small competition, Mr. Brown, Mote Park, Maidstone, being second. For a single dish of cooking Pears there were fourteen entries, Mr. Potter being first and Mr. Powell second. The class for Peaches was well contested, Mr. Woodward being a good first for three dishes. Thirty-six dishes in all were shown, these being good. The varieties taking the premier award were Sea Eagle, Princess of Wales, and Nectarine Peach, Mr. A. Maxim being second with the same varieties. For a single dish there was a much stronger competition, eighteen competing, Mr. G. Wythes, Syon House, Brentford, being a good first with grandly coloured fruit of large size, the variety being Sea Eagle. Mr. T. H. Wren, Bakenham Gardens, Staines, was second with the same variety. Nectarines brought few competitors, only three staging in the three-dish class. Mr. Woodward was first with Rivers' Orange, Pine-apple, and Humboldt—all of good size and finish, Mr. Earl, Somerhill, Tonbridge, being second. For one dish there were more entries, but not all of first-rate quality. Mr. Redden, Wickham, was first with Victoria. Here there was some mistake, as the best had evidently been overlooked. For four dishes of Plums a great number staged, Mr. J. Vert, Audley End Gardens, being a good first with excellent Golden Drop, Jefferson's, Transparent Gage, and Coe's Violet Gage; second, Mr. King, Gatton Park, Reigate. For one dish, twenty competed, Mr. Vert again leading with grand Golden Drop, Mr. Pope, Highclere, being second with Jefferson's. For Gage Plums, one dish, sixteen entered, Mr. King being first with grand Golden Transparent, and Mr. Powell second with Reine Claude de Bavay. Fourteen staged for four dishes of cooking Plums, Mr. Pope being first with Monarch, Grand Duke, Pond's Seedling, and Victoria, Mr. Vert being second, having fine Magnum Bonum. For one dish, Mr. Camm, Battle Abbey Gardens, had very fine Magnum Bonum, being first out of twenty-three competitors; Mr. A. Andrews, Campsea Ash, Wickham, being second. For Damsons or Prunes, Mr. Fennell was first with the Prolific, and Mr. Empson, Amptill House Gardens, Bedford, second, with the Chester variety.

DIVISION V.—SPECIAL DISTRICT COUNTY PRIZES.

In the classes open to growers in Kent there was not much competition, there being only three exhibits in the class for six dishes of Apples and one in the Pear class. Mr. W. Stower won easily in the former with fine dishes of Peasgood's Nonsuch, Lane's Prince Albert, Emperor Alexander, Bramley's, Worcester Pearmain, and Cox's Orange. The Marquis of Camden (gardener, Mr. G. H. Sage) was second. Mr. Sage also took the prize for Pears with a collection that would have stood well in good competition. The classes open to Surrey, Sussex, Hants, Dorset, Somerset, Devon, and Cornwall brought out a fine lot of splendidly coloured fruit, ten competing in the Apple class and nine in that for Pears. The Duchess of Cleveland, Battle Abbey (gardener, Mr. W. Camm), was placed first, though the

judges must have had a great difficulty in deciding between this collection and the magnificent lot put up by Mr. G. Lock, gardener to Mr. B. H. Hill, of Crediton. The fruit from the latter grower was very fine in every way, and comprised grandly-finished and finely-coloured fruit, but polished too highly. His Peasgood's Nonsuch was shown as only west of England growers seem able to show this fine Apple, Emperor Alexander and Ribston being also unmistakably good. For Pears, Mrs. Crawford, Reigate (gardener, Mr. Slogrove), won easily with a very even and good collection, Souvenir du Congrès, Fondante du Cour, and Louise Bonne being the best dishes. Mr. H. Padwick was second, showing a fine dish of Doyenné du Comice and good Marie Louise. The growers from Wilts, Gloucester, Oxford, Bucks, Berks, Beds, Herts, and Middlesex brought a lot of fruit of good quality, but deficient in colour, the number of entries being the same as in the last batch of counties. In the Apples, Mr. Turton, gardener to Mrs. Nicol, of Maiden Erleigh, scored. He had very even dishes, his best cooking kind being Warner's King, the Cox's Orange and Ribston Pippin being very fair fruit. For second place, Mrs. Wingfield, Amptill House (gardener, Mr. Empson), had finely coloured Lady Sudeley and Worcester Pearmain, a nice dish of Stone's being also included. The Pears in this section were very fine, the first prize going to Major Heneage, Compton Basset (gardener, Mr. W. A. Cook). In this lot there was an exceptionally fine dish of Williams' Bon Chrétien and one marked Doyenné du Comice; Marie Louise and Louise Bonne of Jersey were also very fine, but a little deficient in colour. For second place, Mr. F. M. Loneragan (gardener, Mr. Chamberlain) had a nice, clean and even lot, the useful Clapp's Favourite being well shown. Five growers competed in the Apple class open to Norfolk, Suffolk, Essex, Cambs, Hunts, and Rutland, and two in that for Pears. In the former the competition was very keen, and Mr. H. H. Hurnard was fortunate in obtaining the first place. Peasgood's Nonsuch and Cox's Orange were his best dishes, the latter a very even lot. Mr. E. Dresden, Livermere Park (gardener, Mr. J. C. Tallack), was a very close second, Ribston and Warner's King being the best of a neat and even collection. In Pears the Hon. J. Lowther (gardener, Mr. Andrews) won somewhat easily, showing fine Souvenir du Congrès and clean samples of Doyenné du Comice. This was a fair collection, but the second prize lot was very rough and uneven. These were staged by Mr. J. W. Mellis, Sewardstone. In the classes open to Lincoln, Northampton, Warwick, Leicester, Notts, Derby, Staffs, Shropshire, and Cheshire the Apples were fine, but not highly coloured, and it is noteworthy that a new exhibitor, and from perhaps the coldest of the counties, should have won somewhat easily. This was Mr. John Lee, of Higher Bedington, Cheshire, and the collection was even and good. Mr. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, was second, his Cox's Orange Pippin being a nice even dish. There were two entries for Pears, and here Mr. Thos. Bennet, of Market Drayton, beat Mr. Divers. The fruit in both cases was even and clean, but not large. The entries from Worcester, Hereford, and neighbouring counties were very disappointing in point of numbers, but the quality was distinctly good. Only two collections of Apples were shown, Mr. Richard M. Whiting, Credenhill, Hereford, winning rather easily. His Peasgood's Nonsuch were beautiful fruit, and Worcester Pearmain was exceedingly well coloured. Queen Caroline and Cox's Orange Pippin were the best dishes in the second prize collection, and this also was won by a Herefordshire grower, Mr. R. E. Bateman. There were no Pears in this section. From the other Welsh counties the fruit was not of special merit, the Dowager Lady Wynn and Mr. L. Pugh taking first and second places respectively both for Apples and Pears. Two growers only competed from the six northern counties, and here again the fruit was poor. The

Earl of Harewood (gardener, Mr. J. Jeffrey) was first for Apples; Mr. R. J. Hird second. No Pears were shown. Only one grower turned up from Scotland. Mr. Day, gardener to the Earl of Galloway, Galloway House, Carlisle, was awarded first prize both for Apples and Pears with a very creditable collection. His best Apples were Worcester Pearmain and James Grieve, his Mme. Treve and Gratioli of Jersey Pears being excellent. There were no Irish exhibits.

DIVISION VI.—SINGLE DISHES, APPLES—DESSERT.

In the single dish classes, competition was keen. There was a notable falling off in one or two generally popular classes, such as those for Blenheim Orange and King of the Pippins. On the other hand, some, such as Bramley's and Newton Wonder, made a much better show than usual. Pears were very good, perhaps a trifle smaller than usual. Most of the highest coloured Apples came from the west of England, Kent being but little better in that respect than the more northern counties on the east side of the country where the drought has been so great. Of Adams' Pearmain, eight dishes were shown, the first prize going to Mr. G. Lock, gardener to Mr. B. H. Hill, Newcombe, Crediton, for a beautifully coloured half-dozen, rather below in size one or two of the other dishes shown, but well finished; the second prize going to Mr. Camm, gardener to her Grace the Duchess of Cleveland, Battle Abbey, colour again influencing the decision. A rather poor lot, four dishes, of Allen's Everlasting was shown, the first prize going to Mr. H. Henley, gardener to Mr. E. J. Johnstone, Rougham Hall, Bury St. Edmunds, for a nice dish; Mr. J. Powell, gardener to Colonel Brymer, M.P., Ilslington House, Dorchester, taking the second place. The new Allington Pippin brought out seven lots, the placed dishes being very fine. First prize went to Mr. Geo. Woodward, gardener to Mr. Roger Leigh, Barham Court, Maidstone, for a beautifully finished lot; second, Mr. J. Powell, Ilslington House, for larger, but more uneven fruits. A good dish also came from Mr. Hudson, gardener to Mr. Leopold de Rothschild, Gunnersbury House, Acton. Nine good dishes of Baumann's Red Winter Reinette were shown, Mr. Woodward securing the first prize with grandly coloured and very even fruits, Mr. W. Slogrove, gardener to Mrs. Crawford, Gatton Cottage, Reigate, securing second place. Blenheim Orange was not so well represented as usual. Only sixteen dishes were staged, first prize going to Mr. T. H. Slade, gardener to the Right Hon. Lord Poltimore, Poltimore Park, Exeter, for a good, even and well-coloured lot, Mr. Richard M. Whiting, Credenhill, Hereford, being second with rather smaller fruits, which were, however, nicely coloured and clean. Want of colour was a weak point in this as in many other classes. Of Brownlee's Russet there were six dishes, the first two being remarkably good and hard to choose between, Mr. Geo. Chambers, Mereworth, Maidstone, being first, and Mr. Woodward second. Of the seven dishes of Claygate Pearmain, one or two were very weak. Mr. Richard M. Whiting's first prize dish was, however, grand, and these were the only well-coloured fruits in the class. Mr. Woodward's second prize lot was also fine, but somewhat green, a defect which lost him first place. In the next class, Cockle Pippin, where his fruits were far beyond any other in size, Mr. Samuel Kidley, gardener to Mr. W. A. Sandford, Wynehead Court, Wellington, Somerset, was placed first with a beautifully even and well-coloured lot, the second going to Mr. H. Henley for smaller and russety fruits. Five dishes were staged, and all were very clean and good. For Court Pendu Plat, Mr. J. C. Tallack, gardener to Mr. E. Dresden, Livermere Park, Bury St. Edmunds, was placed first for an excellent dish of large and well-coloured fruits, Mr. J. Vert, gardener to the Right Hon. Lord Braybrooke, Audley End, Saffron Walden, coming second with fine fruits also, but poorer in colour. Eight good dishes were staged. Cox's Orange Pippin, always a strong class, brought

but no less than twenty-five dishes, and they were mostly grand fruits. Mr. W. King, gardener to Mr. Jeremiah Colman, Gatton Park, Reigate, showed a perfect dish for first place, closely followed by Mr. Woodward. Other grand dishes came from the neighbourhood of Maidstone, Hereford, and Devonshire, Surrey being also well represented in this class. Six dishes of Duke of Devonshire were shown, first prize going to Mr. G. H. Sage, gardener to the Marquis of Camden, Bayham Abbey, Lamberhurst, Mr. Prinsep, gardener to the Viscountess Portman, Buxted Park, Uckfield, being second. Six dishes also represented the class for Egremont Russet, first prize going to Mr. C. Earl, gardener to Mr. O. E. d'Avigdor Goldsmid, Somerhill, Tonbridge, for an excellent dish. Mr. Richard M. Whiting, Credenhill, Hereford, was second with beautifully coloured but smaller fruits. Four of the six dishes were very good indeed. Nine dishes of Fearn's Pippin were staged, mostly well-coloured but not nearly so fine as last year. The first prize dish from Mr. W. Stowers, gardener to Mr. G. Dean, Whitehall, Sittingbourne, was exceedingly fine, Mr. G. Lock, of Newcombe, Crediton, being second with much smaller fruits. The six dishes of Gascoigne's Scarlet varied much in size. Three were excellent, the first prize going to Mr. W. Stowers, the second to Mr. F. W. Thomas, Wanooh, Polegate, Sussex. Two dishes only of James Grieve were shown, Mr. Day, gardener to the Earl of Galloway, Galloway House, Carlisle, N.B., being first with a grand dish, and Mr. F. B. Parfitt, Farleigh House, Reading, second. King of the Pippins was less numerous and not nearly so good as usual, being very deficient in colour and undersized. Mr. Geo. Chambers, Mereworth, Maidstone, was first with a good dish for the season, and Mr. Prinsep second. Ten dishes only were shown. Four uneven dishes of King of Tomkins County were staged, Mr. Woodward coming first with fine fruits, and Mr. J. Powell second. Eight dishes of Mannington's Pearmain were staged. Mr. T. Turton, gardener to Mrs. G. Garden Nicol, Maiden Erleigh, Reading, was first with a nice and well coloured lot, Mr. C. Harris, gardener to Mr. O. A. Smith, Hammerwood Lodge, East Grinstead, being second. Margil brought out twelve dishes, and is rarely seen in such fine form, the colour very good and the size phenomenal for this generally small variety. Mr. Woodward was a good first, and Mr. T. H. Slade second, both having excellent dishes. Other grand dishes had to be passed over. Only one really weak dish was shown. Of American Mother there were but five lots, Mr. Woodward being first with fine highly-coloured fruits, and Mr. H. Henley, of Rougham Hall, second, with good but less coloured examples. Ribston Pippin was not so generally good. Sixteen dishes were staged; a few rather poor. Mr. T. H. Slade was first with highly-coloured but not large fruits, and Mr. Edward Chopping, Periwinkle Mill, Milton, Sittingbourne, second, with slightly larger but less coloured fruits. The six dishes of Scarlet Nonpareil were not very good, the season apparently not suiting the variety. Mr. Woodward had colour and was placed first, Mr. Hudson being second with an even but rather green set. This class contained two dishes wrongly named. Sturmer Pippin brought out six dishes, rather uneven, but Mr. W. G. Pragnell, gardener to Mr. J. K. D. W. Digby, M.P., Sherborne Castle, Dorset, showed a fine dish for first place, and Mr. R. Chamberlain, gardener to Mr. F. M. Loneragan, Cressingham Park, Reading, was second with good fruits also. Worcester Pearmain was shown in good form, fourteen highly-coloured lots being put up, Mr. W. King, of Gatton Park, securing first with medium-sized but superbly-coloured fruits, Mr. Woodward being second with larger fruits, less highly-coloured. The any other variety class brought out twenty good dishes, mostly well selected and in good condition, the judges, however, apparently, judiciously abstained from testing the flavour of any, and Mr. Woodward was placed first for an exceedingly handsome dish of

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ORCHIDS.

ONCIDIUM FORBESI.

THIS, one of the handsomest of cultivated Oncidiums, requires some care to keep it in health and flower it annually. In its best forms the beautiful yellow margin is like a laced edge, the ground colour of all the segments being a deep chestnut-brown, shining and glossy as if varnished. Many growers who succeed with this species for a few years imagine they have discovered the way of growing it. It may be they give more heat than usual, or by some special addition to the compost get a larger growth than usual for a time, but this success is only temporary, and very often, owing to experimenting in different ways, the plants are disturbed and made worse than before. The plant is difficult to keep in health over a long series of years, and it is usually impossible to improve on imported specimens. It is a native of the Organ Mountains, in Brazil, and though occasionally fine plants are met with in quite a cool house, I have had better results by treating it to a little more warmth. The growths seem to come away with greater freedom, and the roots take more water than when grown quite cool. But of far more importance even than this is the need of preventing over-flowering. More plants of the species have been killed by this than by any other detail of mismanagement, for not only are the flower-spikes very large in comparison with the bulbs, but the blooms remain in good condition a very long time, and thus distress them greatly. I would never allow weak plants to flower, and by weak plants I mean any that have pseudo-bulbs less than 2½ inches high and proportionately stout, while the plants that do flower should have the spikes removed after, say, a fortnight. The vigour of the plant will be kept up in this way as well as it is possible to keep it. Other matters needing attention are keeping the plants clean and in a sweet rooting medium,

and as near their proper routine of growth and rest as possible. The best compost is one that allows the moisture to pass readily through it, yet holds sufficient for the needs of the plants. The strongest plants need not have more than a depth of a couple of inches, while considerably less than this will usually suffice. Owing to the habit of the plant being less spreading than most of the crispum set, small pots are more suitable than the rafts and shallow baskets often successfully used for these. Everything should be done to promote healthy and abundant root action, as on this largely depends the health of the plant. As soon then as the least sign of souring appears on the surface compost, let this be removed and new material substituted, no matter what time of year it is. During the winter season, when evaporation from the compost is slow, it is surprising what a long time this species will go without water. On the other hand, when growth is active, and even afterwards while the plants are in flower, there is a considerable demand upon the roots, and this must be met by a free water supply. Overhead watering is not particularly relished by this plant, though a light spray very finely broken up is of assistance during hot weather. A good deal may be done for weak and badly-rooted plants in this way not only for the species under notice, but also others. It is no use watering the compost, as there are no roots therein to take up the moisture, but the spray referred to checks evaporation from the foliage and is refreshing all round. Scale and thrips are its worst insect enemies, and unless these are kept down, the former by sponging and the latter by vaporising, healthy growth is quite out of the question. It is rather a singular fact that the better forms are often the worst growers, the fine variety *O. F. grandiflorum* being weaker than the type, though producing larger flowers in fine branching panicles. H. R.

Distichous-leaved Epidendrum.—These are very useful where room can be found for them,

for some one or other of the species is almost always in flower. In most cases they are showy and bright in colour and make a welcome change from the usual dwarf species for grouping. There are one or two exceptions, but as a rule they are very easily grown. The roots like plenty of room, a rough, open compost and plenty of water while growing freely. A few of the smaller-stemmed kinds like smaller pots, but, as with many other Orchids, the size of the roots may often be taken as indicating the size of pot and class of material they may be expected to thrive in. The majority may be grown in what may be termed a cool intermediate house, a very moist atmosphere being greatly to their liking, and encouraging the production of plenty of air roots upon the species having this habit. As a rule a central stage in a fairly wide house is best for these plants, but smaller houses may be made suitable, the plants being grown under the roof. Grown in this way some care is required in shading, but otherwise the plants do well and almost always flower freely. This treatment is most suitable for the more slender growing kinds, as those with very stiff stems would not be easily kept from growing up to the glass.

Pilumna fragrans.—The pure white flowers with dense yellow eye of this species are always welcome, but it is rather erratic in its time of flowering. The perfume where a number of blooms is open is very delicate, and the plants look very beautiful backed by Maiden-hair and other Ferns. Like others in the genus, it may be grown with ease provided the roots are well looked after, but these being somewhat large are very susceptible to injury if the compost gets at all close or water-logged. Once the roots are gone it is difficult to induce the plants to produce others freely. With ordinary care in the preparation of the compost and in watering afterwards this need not happen, and as long as the roots are healthy no fear of the plants need be entertained. Water should be withheld to a great extent during the time growth is inactive, and it is not a particularly thirsty subject at any time. It delights in light syringings over the foliage, this treatment serving to keep insects in check, especially thrips, which often attack the foliage. It also keeps the leaves more plump and strengthens the entire plant. It must, of

course, be discontinued during wet weather and in winter.

Scuticaria Steeli.—The long terete foliage of this Orchid makes it an interesting plant, and the flowers are also very distinct and pretty. These occur on short peduncles, seldom more than two on each, and are pale yellow on the sepals and petals, spotted with brown, the lip bright orange. Under cultivation this Orchid requires abundant heat and atmospheric moisture and almost entire exposure to the sun. Not being a very vigorous rooting plant, no great amount of compost is necessary, and I have seen fine plants on almost bare blocks. This is, however, too poor, and if baskets of medium depth, well drained, and with an inch or so of peat and Moss are provided, the plants will do better. The tips of the leaves are very apt to be injured while growing if touched or bruised, and for this reason it should be hung out of the way as much as possible. During the time growth is active a plentiful supply of water is necessary, for the thin compost soon dries, but when at rest very little suffices for it. Treated well, it is not uncommon for the leaves to grow a yard and a half in length, and it is such plants as these that give the finest flowers. *S. Steeli* is a native of Demerara and other parts of South America, where it grows on trees near the river banks. It was introduced in 1836, and first flowered with Mr. Moss, of Liverpool, in 1837.

Cypripedium Spicerianum.—There are some nice forms of this useful and beautiful species now flowering at Syon House. There are few prettier Cypripediums in cultivation, the pure white dorsal sepal, with its median line of deep purple, being very striking and showing richly against the somewhat sombre hues of the other parts of the flower. Now that this beautiful plant is well established in collections cultivators grow it far better than was formerly the case, and it is not at all uncommon to see fine healthy batches of it where it used to be quite a failure. It will be a good thing for amateur cultivators when they wake up to the fact that for many years they have been starving their Cypripediums by keeping them for years in the same pot, allowing them to get potbound and seeing the growths dwindling yearly. It is surprising what grand results may be obtained with some of the older and commoner species by growing them well, by giving new compost just when they begin to tire of the old instead of waiting until the effect of sour and used-up compost is apparent. The more experience they get the greater will be the need of keeping them vigorous and healthy when they are so. A strong plant is improved by being given fresh material, while a weak, half-starved one cannot stand disturbance.

Epidendrum sceptrum.—This is one of the prettiest of the Epidendrams with inverted flowers, and rather a variable one as regards colour. Many forms are, or used to be, in cultivation with white, or nearly white, flowers, the spotting on the sepals and petals being light purple. Others are golden yellow, similarly spotted, and there are intermediate forms. In habit it is rather tall, the stems bearing several fine green leaves, from between which the flower-spikes issue. Its culture is practically the same as for other species in this section, the roots being fairly large and liking a rough, open compost and medium-sized pots. A cooler house suits it, and I have lately seen a fine plant with healthy green leaves and several flower-spikes in a house chiefly devoted to Odontoglossums. The atmosphere, of course, was kept very moist, and during the greater part of the year it was in company with the plants named above, lightly sprayed with the compressed air pump now coming to the front in Orchid growing. During the season of growth plenty of water is necessary, but the season is not always the same. While resting, just enough moisture to keep the pseudo bulbs plump must be given. *E. sceptrum* was formerly much more plentiful in collections indeed, it is now seldom seen. It is a native of Ocaña and various

parts of New Grenada, and was discovered and introduced by M. Linden about 1843.

Dendrobium album.—In habit this species favours *D. chrysanthum* a good deal, but the flowers are quite different. A large number of plants of it have been sent to this country from time to time, but for some reason it has never become at all popular, and is, I think, even less so now than formerly. It is rather a pity, for the flowers are produced very freely in short racemes of two, seldom three each, from the apical nodes of the pendulous stems. These are creamy white, with a stain of yellow on the lip. A little care is needed to grow it well, as very often it begins to push young growth in early winter, at a time when growth on other plants is at a standstill. These young shoots must not be checked, or good results will not be obtained. The stems on well-grown specimens ought not to be less than 18 inches in length, and I have frequently seen them much longer. Grow them as well as possible, then, during winter, and if they are not checked before the days begin to lengthen, they will finish their growth rapidly and often flower upon the young shoots before the foliage has fallen. Occasionally a few flowers are produced the second year, a circumstance I have never noted with *D. chrysanthum*. The species is a native of Southern India, and was introduced by Messrs. Loddiges in 1842.—H.

SOPHRONITIS.

THERE are but three well-marked species in this genus—though one of these, *S. grandiflora*, is rather a variable one—that are at all well known. The name when applied to some of the varieties of the above-named species seems scarcely applicable, though to the type species, which was the only one known at the time the genus was named, it applies well enough. All are dwarf-growing plants, requiring little in the way of compost, but they must not on this account be neglected or grown under too bare conditions. For *S. cernua* and *S. grandiflora* I know of nothing better than the small pans used for suspending near the glass, these, while holding enough for the proper development of the species, rendering it almost impossible to overload the roots with compost. They should be about three parts filled with clean, small crocks as drainage, covering this with a little rough Sphagnum Moss and leaving the remaining third for compost, this consisting of the usual peat and Moss mixture, with abundance of small crocks added to keep it open. When repotting, the small pseudo-bulbs, which grow very closely together in both the above-mentioned species, should be cleared at the base of all mossy deposit, which even in the best description of peat is sure to be present. At the same time avoid disturbing the roots or breaking up the tufts more than is really necessary. The more the clumps are kept together—provided always they are healthy and have no old, decayed bulbs in the centre—the better, as they are more readily fixed in position and not so liable to become loose at the surface of the compost. The surface should be somewhat convex, as it is difficult to fix this class of Orchid if set up too high.

The somewhat rambling habit of *S. violacea* renders a rather different mode of treatment as to a rooting medium necessary. The tiny pseudo-bulbs appear at a considerable distance apart upon a slender creeping rhizome, so that if placed in pans it would soon grow out over the edges, and necessarily out of the reach of benefit from the compost. This, then, must be avoided either by making up large and very shallow pans or by allowing it to run up a block of wood or Tree Fern stem. The former plan has little to recommend it, as the pans would be

very heavy, and the small amount of compost necessary would render it difficult to fix the rhizomes in position. With wooden blocks, on the other hand, lightly dressed with Sphagnum Moss and a little peat, it is an easy matter to use copper wire and tacks and so fix the rhizomes on a small cushion of compost. Thinly-cut strips of cork may go under the wire to prevent the latter cutting into the rhizome. On a Tree Fern stem still less Moss is needed—indeed, the sooner the roots enter the stem itself the better, as this holds plenty of moisture for their needs without anything else. With regard to temperature and position for *Sophronitis*, there is no better than one close to the roof in a house kept at a slightly higher temperature than the cool house, as usually understood, where all the New Grenadan Odontoglossums and similar Orchids flourish. Where *Odontoglossum grande* does well in the body of the house, *Sophronitis* should thrive on the roof, provided other details of culture are well carried out. A very moist atmosphere and shade from bright sunshine are essential. The roots, too, on healthy, well-established plants must be kept moist all the year round. The more regular the temperature and atmosphere are kept and the freer from draughts or drought, the better these little plants thrive and the less trouble they will give as regards insects. Perhaps the worst of these that affects *Sophronitis* is a troublesome small scale. It is especially common on *S. violacea*, and requires great attention in the way of sponging to keep it off this species. As noted above,

SOPHRONITIS CERNUA is the type species and is a native of Rio de Janeiro, where it was discovered some time previous to 1826 by Mr. W. Harrison, a Liverpool merchant, at that time trading with South Brazil. The pseudo-bulbs are so tightly clustered as to appear a cushion-like mass, and from the base of the short leathery leaves the flower-spike proceeds. This bears only a few blossoms, the colour being a bright red, with yellow centre.

S. GRANDIFLORA and its varieties are the best known of all. They produce magnificent flowers, larger, perhaps, for the size of the plant than those of any other Orchid known. In colour they vary from bright scarlet to rosy purple, the usual size being about 2 inches across. Few things are finer in dull October and November than the bright and showy blossoms of this plant. In company with

S. VIOLACEA it was introduced by the successful collector, Gardner, who sent them home about 1837 to Messrs. Loddiges, of Hackney. The flowers of *S. violacea* occur on two or three-flowered peduncles usually in late winter and early spring. The colour is a pretty magenta or violet, with a lighter area around the column and base of the lip.

H. R.

Lælia anceps alba.—It is rarely one can record the free flowering of the white forms of *L. anceps*. There is at the present time a huge specimen of *L. a. Sanderiana* throwing up upwards of two dozen spikes of flower, and a plant of *L. a. Schroderae* of smaller dimensions, carrying twelve flower-spikes, in the collection of Mrs. Lea, widow of the late Mr. C. W. Lea, at Parkfield, Hallow, Worcester. The plants above referred to were grown in baskets suspended over the door in the Cattleya house. There are many others, such as the true old *L. a. Dawsoni*, *L. a. Hilliana*, *L. a. Stella*, and the better varieties of the dark or typical form suspended from the roof of the house, also flowering well, clearly showing that the system followed by Mr. Hurlestone suits the plants.—H. J. C.

Miltonia (Odontoglossum) Schroederiana.—This is one of the most useful and beautiful of the autumn-flowering Miltonias. When grown

under suitable conditions, there are very few *Miltonias* that make a finer display or are more worthy of consideration. The conditions I find most suitable to its requirements are similar to those advised for *M. vexillaria*, that is a few degrees warmer than the *Odontoglossum* house during the winter months. An even temperature of from 50° to 55° meets their requirements. During the warm months of the year a light position in the *Odontoglossum* house suits it well. The potting I prefer doing in the spring, the compost consisting of good fibrous peat and living *Sphagnum* Moss in about equal proportions. The sepals and petals are almost wholly rich brown, tipped at the apex, and marbled with bright greenish yellow, the front of the lip white at first, changing to creamy yellow, the centre becoming suffused with rich purple. In the centre are several raised lines of a darker shade of purple, forming a striking contrast to the bright yellow at the base. The number of flowers on the spike is governed by the strength of the plant. I have seen as many as ten flowers on a spike where the growths have been vigorous. Some remarkably fine plants were recently noted in flower in the collection of Mr. W. Thomson, Stone, Stafford, also in the Cambridge Lodge collection of Mr. R. J. Measures.—STELIS.

***Dendrobium formosum giganteum*.**—This species is usually considered one of the shortest-lived of Orchids, and is generally found to deteriorate in three or four years after being imported. It is, therefore, gratifying to find exceptional cases. I recently observed in the gardens at Gunnersbury House several plants of this, which were not by any means what might be termed strong plants when imported six years ago. Since that time they have increased in vigour, have flowered freely, and are now quite healthy and vigorous. The plants have been grown in baskets suspended from the roof of one of the Fig houses, where an abundance of heat and moisture and the maximum amount of sunlight have been obtained. The panes are unusually large and no shading has been used. There were about thirty plants in all of this species suspended from the roof of one of the houses, into which they had been removed for flowering. The remarkable vigour and condition of the plants may be judged from the fact that I counted on one large specimen sixty-four expanded blooms. The majority of the other plants had from twenty to forty flowers each, the flowers themselves being unusually large and fine in substance. Perhaps this note may be interesting to "J. T. G.," who in a recent issue of THE GARDEN inquired what had become of the large specimen Orchids of twenty-five years ago. These *Dendrobiums*, *Lælia purpurata* (also grown by Mr. Hudson), *Dendrobium nobile*, and *D. Dearei*, all of which have been figured in recent numbers of THE GARDEN, are not made up specimens, but plants that have been successfully grown on from small examples to commence with.—H. J. C.

FERNS.

SPECIMEN FERNS.

THERE are many Ferns which are rarely seen beyond ordinary-sized plants in 5-inch or 6-inch pots which may be grown on into larger specimens. To do this, it is important to select healthy and suitable young plants to start with. I say "suitable" because many form a number of crowns, and when propagated by division several crowns are often left together. The best plants for growing on into specimens are those started from a single crown. Take *Adiantum Farleyense*. A dense tufted plant may be perfectly healthy, but will never make large fronds, while one started from a single crown and grown on freely will make fronds fully 3 feet long, and it is in such that the full beauty of this fine variety is seen. After selecting

suitable plants, the next thing is to look to the soil and potting, using good fibrous loam, some stable manure, and plenty of sand with good drainage. The loam should only be broken up and used rough, while over-potting should be avoided. The plants must be potted on before getting pot-bound, and no particular season need be considered, except perhaps between October and January. Among other *Adiantums* which make fine specimens are *A. scutum*, *A. trapeziforme*, and *A. cardiochlena*. Many of the *Nephrolepis* are much inclined to get too dense. *N. davallioides furcans* makes a splendid plant when grown from a single crown. If young plants spring up round the pots they should be removed. This applies also to *exaltata* and others. All *Nephrolepis* succeed best in a stove temperature and do better in a good loamy soil than where peat is used. They do best when elevated on pots or suspended from the roof. It is only when so treated and plenty of room given that the fronds can fully develop. The greatest difficulty in growing *Asplenium Nidus* on into a large specimen is that slugs and snails play such havoc; the tiniest bite when the frond is young shows more and more as it advances in growth. To prevent these attacks place an inverted pot in a pan of water and stand the plant on this. Unlike many of the genus this does not root deeply, the roots coming to the surface, and if these are fed with a little artificial manure mixed with *Sphagnum* it will greatly add to size of fronds. The varieties of the *Asplenium bulbiferum* group are rarely grown into large specimens. *A. b. divaricatum*, though not a choice variety, makes a very handsome specimen. Plenty of pot room must be given, and almost any compost be used, provided it is not too close and heavy. As this makes such an abundance of roots, it will do no harm to reduce the ball when repotting. Until the plants are in the largest size it is intended to use, potting must be attended to before a check is given, and after the final shift manure may be used freely as soon as the roots have filled the pots. In using manure, care must be taken that it does not get into the crown of the plant, or the young fronds will be damaged. *A. laxum pumilum* is another good variety of this type.

Microlepia hirta cristata is another Fern which, to make a good specimen, must be started from a healthy young plant which has not become too dense. It is much inclined to get very bushy. By frequent division this may be avoided, and when grown on freely makes a very handsome specimen. A good loamy compost should be used, and if grown in an intermediate temperature and well exposed to the light, the fronds will be of a pleasing light shade of green. Watering must be carefully attended to. *Davallia Mooreana* (pallida), which makes such a grand specimen, is difficult to manage if once it gets unhealthy. It often suffers through insufficient drainage, the roots do not go deep, and if a little over-watered the soil gets sour. Pans are preferable to pots, especially for large specimens, but where pots are used they should be filled at least one-third full of drainage and some charcoal used. I have seen very large bushy specimens of *Gymnogrammas*, but they are far from being as handsome as those grown from a single crown, which will make much larger fronds. To succeed with these they must be grown on freely from seedlings. They like rather a rough peaty compost, and although it is dangerous to over-pot, they must not be allowed to get starved, pot-bound, or over-watered. Few Ferns are more difficult to get back to vigour if once they do get a check.

I may add that they succeed best when kept up near the glass, and the fronds should never be wetted.

Other examples might be given of those usually seen in only small plants, but which may be grown to a large size with liberal treatment, selecting good material to start with.

A. HEMSLEY.

NOTES OF THE WEEK.

***Arum italicum marmoratum*.**—If the fruiting of this plant could be relied upon it would be worth planting for this alone. At the present time a small group of it is singularly striking, owing to the brilliancy of the scarlet fruits that cluster on the summit of the stalk.

***Veronica Teucrium dubia*.**—Among the dwarf creeping or prostrate kinds this is perhaps the best coloured, the fine clear violet-blue being of a deep intense shade, and seen to advantage in the many dainty pyramidal spikes that the plant so freely produces. As a carpeting plant for ledges of rockwork this will be found useful.

***Xanthoceras sorbifolia*.**—It may interest you to know that I have a seedling *Xanthoceras sorbifolia* raised by me which is now in flower. The plant from which the seed was procured, but which is now dead, flowered yearly in May. *Choisya ternata* is also showing freely for flower, but I believe that it is well known to bloom twice in the year.—W. NICHOLSON, Lewes.

***Lobelia British Maid*.**—This appears an addition to the herbaceous section of these plants, but whether it will prove an acquisition is scarcely apparent at the present time. The flowers individually are much larger than usual, but these are considerably fewer in numbers, and the effect, therefore, as a whole is decidedly less. The colour is very pleasing, a self shade of the palest salmon-pink, which is quite new among these plants.

***Parnassia asarifolia*.**—This pretty bog-loving plant is now in flower in the moist portion of the rock garden at Kew. The flowers, which are larger than those of some other species, are of a silky white and remarkable for the beautiful green veins along the inner surface of the blooms. Occasionally the veins have a slightly feathered outline that renders the plant even more attractive. It is, however, not a plant for distant effect.

Dark Cactus Dahlias.—Quite recently two novelties among very dark Dahlias of this section have put in an appearance, and have been distinguished by an "award." These bear the names of Ranji and Ebony respectively. Both kinds are exceptionally dark, the latter perhaps the darker, as the former is lit up, so to speak, with a wine-coloured shade at the tips. In any case, darker forms than these would appear scarcely obtainable, and both are of the true Cactus type.

Aster Edith.—For this fine Michaelmas Daisy I have been indebted to the Rev. C. Wolley-Dod, from whose garden so many of our best new Asters have come. The flowers are considerably larger than a penny and of capital form. The colour may perhaps be best described as rosy lilac, although the shades of colouring among the Asters are almost impossible to describe in words. A. Edith is a good grower and gives a great number of flowers.—S. ARNOTT.

***Crocus cancellatus var. cilicicus*.**—This pretty variety of *Crocus cancellatus* is at present fully in flower and is very effective in the rock garden. It is, I think, finer than the other forms of *cancellatus* figured in Mr. George Maw's monograph. I believe, however, that even the form named *cilicicus* is in itself a variable one with several shades of blue. The one in my garden is a good blue, approaching the ground colour of *C. speciosus*.—S. ARNOTT, *Carsethorn*, by Duffries, N.B.

***Nymphaea Marliacea alba*.**—This fine white Water Lily opened what will probably be its last flower for the season on October 8. There are buds on the same plant and on the few others of the newer Water Lilies I grow, but these are not likely to open now that the sun has lost much of its power and the water is so much

colder. The new Water Lilies are quite hardy with me in the S.W. of Scotland, and ought to be more largely grown everywhere.—S. ARNOTT.

Aster Novæ-Angliæ roseus.—Although this Aster, as one gathers from a note in a contemporary, is uncertain further north because of its late blooming, here I have no reason to complain of it in this respect. It never fails me and gives a welcome bit of colour among the other Michaelmas Daisies. Its only fault with me is its tall habit, although this is, as may be understood, not nearly so pronounced as in stronger soils. The pretty rose-red flowers are very useful in their way.—S. ARNOTT, *Dumfries*.

Tunica Saxifraga.—This elegant and free-flowering little plant is even more appreciated when full of bloom at the beginning of October than when at its best earlier in the year. I saw a good plant at Summerville, Dumfries, on the 2nd of this month which looked very bright and pleasing in the rock garden there. It blooms from June onwards, and is one of the best of our alpine flowers, of light and graceful habit. The pale rose or flesh-coloured flowers are small, but their number compensates for their lack of size.—S. ARNOTT.

Leucojum (Acis) autumnale.—It was in August that I sent a short note to THE GARDEN in praise of this exquisite little Snowflake then in bloom. To-day (October 10) it is still in flower, although seeds from the first blooms have ripened and fallen to the ground. A pretty picture could be made with the autumn Snowflake were it more plentiful by planting it singly and in groups down the sides of a little dell in a large rock garden. It comes so freely from seed, that it is surprising that it is not grown in quantity and offered at a lower price.—S. ARNOTT.

Incarvillea variabilis.—The species here named is widely removed from *I. Delavayi* and others, particularly in the bush-like habit of growth, which is of a semi-shrub-like character, though not woody, but the reverse. The plant is not generally known in cultivation, but is best suited for planting on a warm border in rich sandy loam. During summer, and indeed extending into the autumn months, the plant flowers quite freely, the blooms being of a rose-carmine hue and about one-half the size of those of *I. Delavayi*. The plant grows about 2 feet or so high.

Trichinium Manglesi.—A small gathering of the flower-heads of this singular and beautiful plant were among the interesting subjects at the Drill Hall on Tuesday last, having been sent from the Botanic Gardens, Glasnevin. The arrangement of the flower-heads is very interesting, the pink-tipped segments of the perianth emerging in globular form and surrounded by long shaggy white hairs forming a head. The plant is not generally grown in gardens, and but for the care bestowed upon such things in large botanic gardens, such pretty species would soon be lost sight of.

Kniphofia Nelsoni.—I was pleased to observe a note on this Torch Lily in THE GARDEN of October 8. It is a very distinct little *Kniphofia*, which is saying a good deal in its favour, as we have now so many to choose from. Specially noticeable is the shape of the unopened spikes. These are more than usually uniform in thickness and more slender than those of most other *Kniphofias*. The colour of the opened flowers is also a good scarlet. I look upon it as rather tender, however, and would advise a little extra precaution in the way of applying additional winter covering.—S. ARNOTT.

Aster Novi-Belgii Arcturus.—In this section of the genus, the most pronounced for weedy kinds perhaps of the whole race, we find this a most telling and acceptable variety—not so much perhaps on account of its size as for the distinct shade of colour, the moderate height, and, what is given to very few kinds, distinctly coloured stems. Such a kind merits special care, and by raising seedlings and selecting, an improved type of this race may result. Of course it is even now some way behind the *Amellus* forms, particu-

larly in point of size, these latter also having the advantage of a superior habit and, not least, a stay-at-home rootstock.

Dendromecon rigidum.—The warm weather of 1898 has suited this pretty Californian shrub, and the flowering has in consequence been more abundant. Further experience, however, only confirms the original idea as to hardiness, and it will not be safe in the open unless in the more favoured districts and in warm positions. Probably in the more favoured parts of these islands it may succeed in the open, or at least with wall protection, and if so, it is well worth planting for the beautiful golden flowers that are produced for a long season in summer. The blossoms are not unlike those of a large yellow *Ranunculus*. A coloured plate of this was given in THE GARDEN of October 10, 1896 (p. 292).

Crocus iridiflorus.—Very beautiful in the early days of October is the Iris-flowered Crocus—*C. iridiflorus* of Heuffel, *C. byzantinus* of Parkinson. This year it is as fine as ever, and as it is one of the most distinct in form of any of the Crocuses, it is usually much taken notice of. The clear purple outer segments are much longer than the inner ones, which are lilac in colour, and this difference suggested to Schur that this Crocus should be separated from the others and placed by itself under the generic name of *Crociris*. It has also purple stigmata. A couple of clumps in my rock garden look very pleasing to-day with the sun full upon their flowers.—S. ARNOTT, *Carselhorn, by Dumfries, N.B., October 10*.

Rosa alpina alba.—The single Roses are always acceptable, and at this season the blooms of the white variety of *Rosa alpina* are especially valuable in the rock garden now that other flowers are scarce. On a sunny rock garden this Rose usually gives me some flowers in late autumn, and this year is no exception. There are, indeed, more than usual, but this is probably due to the way in which the Rose has increased by rambling among the stones, sending up suckers here and there around the original plant. This is rather troublesome, but one would rather have the work of keeping the Rose within moderate compass than be without it. The blooms last longer than in the earlier months when it usually comes into flower.—S. ARNOTT.

Caryopteris mastacanthus.—Blue-flowered shrubs are so rare, that it is a pleasure to notice one so little known or grown as *Caryopteris mastacanthus* exhibited recently at the Drill Hall. For those who have not seen it, I would like to tell of its pretty buds expanding into soft blue-lavender blossoms, light and feathery-looking, with long stamens. The shrub is very free flowering, clustered blooms growing in whorls on every shoot. The foliage is of a dull, soft green, the leaves being silvery underneath, and emitting a fragrance of lavender. A small plant of it planted here last autumn is quite a picture now when the season is throwing its veil over so many fair flowers, and even the bright and coloured foliaged shrubs are changing or losing their charms.—SUFFOLKIAN.

Gazania nivea latifolia.—The specific name here given is sufficiently descriptive to mark a wide departure from the splendens type, so usually associated with orange of varying shades. The above plant, however, is equally free-flowering, and when the sun reaches the blooms they are rendered somewhat conspicuous by their distinctive creamy shade. More hardy than many kinds, the above is yet of a rather tender nature, though a few degrees below the freezing point leave it unharmed. Testing such things, too, is always an interesting experiment, and in the rock garden, when flowering plants are few and far between, any good hardy species would be a welcome addition. The present year has been favourable to the *Gazanias*. Even now the above well-marked plant is quite full of flower-buds that a few hours of warm sun materially assist to unfold.

Victoria Regia at Kew.—This has been producing some large and splendidly coloured flowers

in the tank in the Royal Gardens at Kew, and the interest displayed by visitors to this house is quite remarkable. The outer or lower petals are nearly pure white, gracefully recurving to the water, the inner petals richly coloured and of a rosy purple hue, very striking by reason of the numbers so coloured, as also the general size of the flowers. The flowers, too, being slightly elevated above the surface of the water, are displayed to advantage, and therefore attract large numbers to the tank in which it is growing. On the whole, the plant this year has been highly successful, the gigantic leaves spreading to the full limit of the tank and leaving ample space for the unfolding blossoms nearer the centre.

Polygonum Brunonis.—Few free-growing dwarf hardy plants produce more satisfactory results generally than this. Happily, too, it is among the most easily grown of hardy things, soon forming a fine spreading mass, in time covered with almost endless spikes of flowers. The plant, moreover, has the advantage of looking well in foliage, in flower, and even in the waning days of its beauty the red-bronze of the multitude of flowering spikes is certainly not without its charm. The plant, if not essentially a rock garden subject, is nowhere seen to so much advantage as when covering a lofty and spacious ledge of rock, where opportunity is afforded for spreading out its free carpet of narrow lance-shaped leaves and sending forth its myriad spires of pretty, if small, blossoms. It never fails to flower, while its absolute hardiness should render it of service in many a large garden where space exists for such things.

Hybrid scarlet Lobelias.—Mr. Ladhams, of the Shirley Nurseries, Southampton, sends us some good hybrids of these, a very varied and interesting series. Many years ago certain forms of the larger scarlet *Lobelia* were raised, and they were very popular at one time, and now we see a revival of interest in them and some attempts made to improve them. MM. Rivoire, of Lyons, have raised some handsome hybrids between the blue *Lobelia* of the American river banks and the large scarlet *Lobelias*, some of which are pretty in colour also. Usually these hybrids have not been real improvements, but some of those raised at Lyons are much better than the old ones. The true cardinal flower is a hardy perennial, a native of the Eastern States of America, in moist soils. The plant that gives us the finest garden varieties is *Lobelia fulgens*, a native of Mexico. Although the plant grows well in summer in our gardens, it is somewhat tender in winter. We mean the varieties of this greater scarlet *Lobelia*. Round the coast, in light peaty soils, in the west country and in Ireland it often lives over the winter, but in inland districts and cool soils it must be kept in frames, as out of doors it often perishes in winter.

Chrysanthemums in Egypt.—Since 1894 Chrysanthemum cultivation in Egyptian gardens has gradually been finding favour. Its claim as a popular favourite has drawn from admirers some of the attention it so well deserves, and the propagation, manuring, and disbudding of the plants are gradually being mastered by the Arab gardeners. The few poor varieties occasionally met with are giving place to a larger number of healthy, well-grown specimens; so much so, that last autumn the first Chrysanthemum shows in Egypt were held in Cairo and Alexandria with creditable results. This season Chrysanthemum shows are again to be repeated, when greater results may be expected. Many amateurs in the Egyptian capital have obtained cuttings and plants from England and France, and are growing Chrysanthemums in considerable numbers. The Government Gardens at Barrage, the Chrysanthemums from which were awarded the silver medal at the Cairo show last autumn, have this year a special Chrysanthemum garden of some 5000 plants, and private growers in Alexandria and other towns in the Delta are doing much to establish this home favourite in Egypt.—WALTER DRAFER.

STOVE AND GREENHOUSE.

CAMPANULA VIDALI.

THE accompanying illustration shows a group of this strange and beautiful shrubby *Campanula* grown for seeding at Ardcairn, the nursery grounds of Mr. Hartland, near Cork. It was discovered many years ago by Captain Vidal, R.N., on a rocky islet off the coast of Flores, one of the group of the Azores, and has been figured in the *Botanical Magazine*, t. 4708. It received a first-class certificate when a group of well-flowered plants was shown at a meeting of the Royal Horticultural Society at the Drill Hall. Being a perennial, the plants flower the second year from seed. The group of plants figured here was plunged out of doors for blooming, having been raised and grown in a cool frame. It would probably survive any

culture, rooting readily from cuttings of the young shoots during the spring months, and they grow away freely afterwards if given the ordinary treatment of stove or intermediate house plants. —H. P.

Fuchsia gracilis variegata.—This is a counterpart of the old hardy *F. gracilis*, except that the leaves are variegated with creamy white. This *Fuchsia* may be advantageously employed for several purposes, it being one of the most desirable subjects that we have for clothing the roof of a greenhouse, the slender shoots disposing themselves in a very graceful manner, and towards the tips they are quite weighed down with their brightly coloured blossoms. Fair-sized bushes, too, planted out of doors during the summer are very beautiful, but in most districts it will be necessary to place them under cover in the winter, as the variegated variety is less hardy than the typical green-leaved kind. It is quite an old plant in gardens, that might with advantage be more often met with than it is. With the

structure or any similar position, but for general purposes it is far more useful in the shape of smaller plants. There are several forms, but this (the oldest) is equal to any of those with scarlet berries, while one with yellow berries (flava) may be grown for the sake of variety, but it is not nearly so showy as the other. *Rivina humilis* is a native of the West Indies, and in some districts quite a weed.—T.

CAMELLIAS.

To the interesting article on Camellias that accompanied the plate in last week's GARDEN I should like to add with respect to Donckelaari the great variability in its markings in different seasons. Whether this is due to more or less sunshine, more or less vigour in the plant, or any other cause I am unable to say. It is certainly the case not only in this variety, but in other old sorts like Cup of Beauty, japonica, pomponia, and others. The very late growth of Donckelaari is quite as pronounced under glass as in the open, and in a house containing many old varieties it is one of the last to start into growth and the last to drop its flower, although the plant is on the south side fully exposed to the sun and quite without shade at any time of the year. So far as size is concerned, *conspicua* is with me quite as large as *reticulata*, and in its case the large yellow stamens contrast finely with the bright-coloured petals. A few varieties were planted outside some years ago, probably late in the fifties or early in the sixties, but they are not satisfactory. They are not affected by the sharpest winters; buds are produced in plenty and flowers develop, but only partially, and in five seasons out of six come to a premature end, spring showers and frost being responsible for the damage. Under cover, with just enough fire-heat to keep the glass above freezing-point, they flourish exceedingly, and some of the plants with the dark glossy green leaves and plenty of firm, plump buds are doubtless those with which the house was furnished close on 100 years ago. There was a tinge of yellow in some of the foliage and a tendency to ragged, irregular growth when I took charge of them sixteen years ago, and a general renovation of the beds was suggested, but remembering, from early perusal of old gardening books, the thoroughness that characterised the work of our fore-



Campanula Vidalii at Ardcairn, Co. Cork. From a photograph sent by Mr. W. B. Hartland.

ordinary winter in the southern districts of England and Ireland, but has not yet been put to that test by Mr. Hartland. It is a most distinct plant, and desirable for conservatory decoration. B. P.

Ruellia rosea.—This is a free-growing plant of a half-shrubby character that keeps up a succession of its showy blossoms for a considerable period. The flowers, which are of a bright rosy magenta colour, consist of a curved tube about $1\frac{1}{2}$ inches long, while the expanded mouth is an inch or so across. It is a native of Brazil and succeeds well in an intermediate temperature, while it may also be treated as a stove plant. The individual flowers do not last long, but they succeed one another so quickly that a plant has generally a fair sprinkling thereon. This and other *Ruellias* are well worth more attention than they usually get. They are all plants of easy

exception of the much larger-leaved variety *Sunray*, it is certainly the best variegated variety that we have, and the two are so dissimilar that in most gardens a place may be found for both. —H. P.

Rivina humilis.—This is an extremely pretty decorative plant, for though the flowers are insignificant, the berries that succeed them are borne in such numbers and are so brightly coloured, that a few good specimens form a very pretty feature in the greenhouse during the latter part of the summer and in a warmer structure later on. It can be readily increased either by means of cuttings or seeds, and forms a slender, loose-growing plant if allowed to assume its natural character, under which conditions it is far more pleasing than when stiffly trained and tied. A stick or two just to afford the necessary support is all that is needed. This *Rivina* can also be employed to furnish the end of a glass

fathers in the way of first preparation, I came to the conclusion that liberal feeding would bring them round, and, after a little pruning and tying in, gave them a mulch of fresh cow manure 3 inches thick, and a dose annually repeated ever since. They responded well to the treatment. The foliage was soon in the best of health, and in the majority of seasons I get plenty of flower from the end of November until early in May. In drawing attention above to the little done in the way of renovation of borders, I did not mean to suggest that no measures had been taken in this direction from the time of planting; they were doubtless overhauled some time in the fifties. Nothing, however, has been done since 1866, and this is an instance of the minimum of trouble in connection with planted-out Camellias, always provided they get the necessary attention in the way of annual mulching and a copious supply of water at regular

intervals, these intervals varying in my case from once in ten days in summer to once in twenty-one in winter. I have only just finished bud-thinning, some of the varieties being very late in swelling up. It is a tedious operation with old-established plants, six and seven terminal buds, and as many as a score on a shoot some 9 inches long, not being at all out of the common. I generally leave one terminal bud and another about 3 inches or 4 inches down the shoot, a method that ensures a nice succession of flower.

E. BURRELL.

POINSETTIAS.

THE bright red bracts of these plants are very useful for all kinds of decoration in winter, but although they are a good deal grown in private gardens generally, the specimens produced are not always a credit to those in charge. Yet their culture is extremely simple if gone about in a proper manner. By cool treatment and judicious feeding market growers produce plants with large bracts a foot or more across and about the same height in quite small pots. One of the worst mistakes is keeping the plants always in heat; it does not matter so much of course if they are not required very dwarf, but plants 1 foot or 15 inches high come in useful for many purposes where the lanky specimens often seen would be unsuitable. The dwarf plants, too, carry their foliage almost to the surface of the soil, while the tall ones have very often a foot or more of bare wood, which detracts a lot from their appearance. Large spreading plants are not often needed, but if they are, the old plants should be cut in early and started in warmth, but when the young growths are 2 inches in length they may be placed in a greenhouse temperature, a good place being a nice light frame where a little heat can be turned on at night and during cold or wet weather. The hardier the plants are grown the more solid the growth will be, and as a result the bracts will be fine in size and colour. Stage the plants on pots or in some other way so that the heads are within a few inches of the glass, and lower them by degrees as the growth advances. Cover the glass by night as long as there is any danger from frost to be apprehended, but on mild nights allow a little air on the top of the frame. In sheltered gardens the lights may be entirely removed by midsummer, the plants meanwhile being thinly arranged so that the air plays freely about every part of them, keeping the growth stocky and short-jointed, the individual leaves meanwhile being large and of good texture. As a rule it will not be practicable to put the lights on again over these large plants, consequently by the end of August they will have to be housed in some light and airy structure, such as an early vinery cleared of its fruit. Of course, where pits of suitable size and depth are at command, these may with advantage be used, and, owing to the heads of the specimens being close to the glass, they will do admirably. Even here it is worth while being at a little trouble to adjust the plants as to height, though the plants if kept cool will only grow slowly and will not draw, while when the bracts show, the stems do not elongate much afterwards.

To obtain the dwarf plants mentioned, recourse must be had to annual propagation, and the stock plants should be kept dormant as long as possible. When signs of growth appear get them well up to the light, and while keeping the roots on the dry side let the atmosphere be genial, occasionally damping the plants lightly overhead. The shoots will keep nicely short-jointed, and by the middle or end of April should be about 3 inches or a little more in length, firm at the base, yet not woody.

This is the time they will strike most easily and with least heat. They may be rooted in 4-inch pots, three cuttings in a pot, or, better still, singly in 3-inch pots. A heel of old wood or a slice of bark may be taken off with each one, and this keeps them from flagging unduly. When striking them singly they should be inserted by the side of the pots, as they are more likely to root here than in the middle, and at subsequent repotting this can easily be rectified by pressing the ball flat and filling around it. The less bottom-heat they get the better, only enough to ensure their rooting, and as soon as it can be seen that they are struck, take them by degrees to a cooler and drier house. If not allowed to make any growth in the propagating frame they are not very susceptible to checks, but this requires watchfulness and a little observation. Those acquainted with the plants can see easily when the cutting is rooted, but beginners are apt to leave them too long. They need not be long in the cutting pots, and from these may go into the flowering size. This will be according to the strength of the plants, and will vary from 4½ inches for the smallest and latest to 7 inches for the best. A very rich compost is not desirable, equal parts of loam and rough peat, with a little of a good concentrated manure and a dash of sharp silver sand, suiting them well. From the time they are established in these pots the plants may be grown almost entirely in the open, covering them only from heavy rain or hail. Keep the pots well apart so that sun and air play freely about them, and water with care until the pots are filled with roots, an abundant supply being necessary afterwards. Feeding may commence when the plants are a little pot-bound, and continue until the bracts show colour. Soot-water well diluted and used frequently has an excellent effect upon the colour of foliage and bracts, and this may be alternated with guano with advantage. The bracts open, lessen the water supply a little and take the plants to the conservatory, or wherever they are wanted, this class of plant being much hardier than others grown in a stove temperature all the season. In winter they may be dried off by degrees and placed in a fairly warm house, or anywhere where the temperature at night does not fall below 50°. It will not, of course, be necessary to keep all the plants if an annual system is decided on, but it is wise to keep enough, and fairly old plants are better for stock than young ones.

PLUMBAGO CAPENSIS.

IN spite of the frequent notes on this lovely greenhouse climber, it is not seen in amateurs' houses half so often as it should be, and, unfortunately, when it is grown it is far too tightly trained, being tied or nailed in instead of allowed to ramble at will. I know of nothing more beautiful than a large plant allowed to take its own way, and after being cut back into shape a little in winter, to push its shoots in all directions, to be crowned presently with the lovely pale blue flowers, so different from almost every other blue flower in cultivation and contrasting so beautifully with the deep green foliage. It is as easily grown as it is beautiful, making immense plants in a short time where there is room for its full development. The finest possible position for it is in a large and lofty conservatory, where in summer it makes a grateful shade for the other occupants of the house, and, being cut fairly hard back in winter, does not obstruct the light. Besides the rafters of the roof there are often pillars, tie rods, and other places in houses of this description it is necessary to drape with flowers and foliage, and there is no better place for the Plumbago. Where it is desired to cover a

large space quickly, the plants should be put out in a fairly large and rich border and encouraged by a gentle warmth and moist atmosphere to make plenty of growth, ripening this well by exposure to sun and air in autumn and only removing the weak and unripened points. When the plants have filled the allotted space and the wood begins to get old, it is good policy to train in a few young shoots to take the place of these, cutting the oldest away annually. Even in small amateurs' houses there is no need to be always tying and nailing the plants hard back to walls or on balloon trellises. Give them liberty as far as space will admit, and the result will far exceed the expectations of those who know it only as a trussed-up, tightly-trained captive. There is a white form of this plant now plentiful in gardens, and in some cases the two plants are grown together, but this, I think, is a mistake. We have plenty of white-flowering creepers and climbing plants, but only one of this colour. I do not wish to be understood as decrying the white form; far from it, but to grow them side by side is unnecessary. Both are very fine plants, but the blue form is indispensable. It may be propagated by cuttings, choosing those that are only half ripened and are not showing flower. They root readily in a light, sandy compost, and often the young suckers that spring from the base of an old plant may be taken off with roots attached and potted in light, sandy soil. The plants must be kept rather dry at the root during winter. H.

ARUM LILIES TURNING YELLOW.

COULD you give any information why Arum Lilies turn off yellow round the edges of leaves after being potted? Mine grew strong and healthy plants, were carefully taken up, well looked over for worms, potted in nicely-prepared earth, sifted and mixed with rotten stable-yard manure, and put into a shed for a few days. All are now, with the exception of one, looking sickly and turning yellow. They have been well watered with plain water and kept in a greenhouse, but have never recovered potting, which was done about three weeks ago.—E. A. T.

* * It is difficult to say positively what was the actual cause of "E. A. T.'s" Arums going as described, though the experience is not unique. Evidently the plants had a severe check at lifting time or immediately after, and the result of a check always shows itself by the leaves turning yellow just round the edges at first, and gradually the whole leaf assumes the same colour and dies outright when the check has been very severe. Probably by this time the plants have recovered somewhat and no further decay will take place, but they will remain unsightly, and the loss of foliage will affect the flowering more or less. The check may have arisen from one or more of many causes—over-mutilation of the roots, too much or too strong manure in the soil, insufficient drainage, over-watering, or too airy quarters after lifting. Either of these suggested causes would check root-action for the time, and this on such a strong and gross-growing plant as the Arum at a time when it should be in full growth is bound to affect the leaves already made, and which cannot get supplies quick enough to keep them growing. Plants grown on the system of planting out during summer require very careful nursing after lifting, and this is only possible where a good deep pit or garden frame can be given them, and to prevent rapid evaporation very little ventilation should be given until they are seen to be growing again. Raw manure coming into contact with broken roots checks new root growth for the time, and it would have been better to have used no manure at all in the soil round the roots and to have used it later on as a top-dressing. Over-watering, too, would tend to stop root-action, for though the plant is a semi-aquatic, it cannot assimilate much water until the roots regain activity, and wet soil, especially when well manured, soon turns sour if not occupied with active roots. I should strongly advise "E. A. T." to adopt another system next year,

as that of planting out is by no means the best, though, when well carried out, it produces the largest flowers, but fewer of them and later, than if the plants were grown in pots throughout.

Shake out the crowns in June or July, pull away the smaller offsets and repot at once, either single crowns into 7-inch pots or more into larger ones, according to whether big or small plants are wanted. The soil should be rich, and as there is practically no growth at that time to support there is no fear of a check being given. When the new growth appears up, keep well watered and in a fairly sunny spot, the pots being stood on a bed of ashes, leaving them there all summer and removing them to the greenhouse early in September if flowers are wanted before Christmas, or they may be left outside till the nights begin to get frosty if they are not wanted so soon. These plants should have lots of manure water from the time the pots get full of roots, and it is well when bringing them under glass to remove some of the top soil and replace it with semi-decayed cow manure, built up basin shape to allow for plenty of water. A modification of both systems may be made with good results by potting as above and then plunging into the open ground in trenches, just burying the pots with soil and allowing the plants to root through into the soil beneath; this will be accelerated by making the holes at the bottom of the pots bigger before plunging. This is a very good method for those who cannot attend to pot plants with water whenever it is needed, as it reduces the needs in that way, also the plants so grown may be depended on to do well for two years in the same pots provided the autumnal top-dressing is not neglected. The planting-out system, though sometimes successful, is most unnatural, as the plants must get more or less of a check at the very time when they should be making rapid progress towards flowering.—J. C. T.

CULTURE OF STEPHANOTIS.

THE notes by "H." and "E. J." (page 234) on the management of this flowering climber are interesting and instructive. I quite agree with the former as to the desirability of limiting its root space. One of the best examples I ever saw was grown in a large pot which it had occupied for some years. The plant was trained to the back wall of a Pine stove, all the shade it had being a sprinkling of whitening over the roof. Growth was thinned out every year and the rest trained, several growths to each wire, and in a somewhat limited space hundreds of trusses were produced annually. The assertion that much manure in the soil is not advisable is, I think, also correct. The compost the plant referred to grew in consisted of three parts good turfy loam and one part peat—also of a fibrous nature—together with a free addition of charcoal and mortar rubble. Mealy bug was somewhat troublesome, but a remedy was found in the X.L. All fumigators, one of these being occasionally set in close proximity to the plant. As regards temperature, I think it is very accommodating, although I should not care to treat it too much like a greenhouse plant. Many will remember the splendid specimens which used to be shown at the London exhibitions some years ago, these being grown in a stove temperature. I know the *Stephanotis* will winter in a very low temperature provided the roots are kept quite dry and the house also. Some years ago a friend of mine living at Beckenham had a large plant under his charge. It occupied a small, badly-heated structure, and often in severe frost the temperature at night approached freezing point, yet the plant took no harm, and was each summer a dense mass of pure white trusses. Another very striking proof that the roots do not require a lot of rich soil may be seen at Hillside, Newark. In a small span-roofed stove, running east and west, is a very fine plant, growing in a brick pit only a few feet square. Here it has been for many years, deriving its chief support from top-dressings and manure water. In early summer the bloom is worth going a long distance to see.

The plant is trained pretty close to the glass and receives little or no shade. No doubt the less heat the plant has the less liable is it to mealy bug, the trusses also lasting longer when cut.

NORWICH.

FLOWER GARDEN.

ASTILBE GERBE D'ARGENT.

(SILVER SHEAF.)

THIS distinct and handsome form of *Astilbe*, which gained many admirers at one of the Drill Hall meetings towards the end of July, is of



Astilbe Gerbe d'Argent (Silver Sheaf). From a photograph by Mr. J. Gregory, Croydon.

hybrid origin, and was raised by M. Lemoine, of Nancy, its parents being *Astilbe Thunbergi* (introduced from Japan by Messrs. Veitch in 1880) and the plant generally known in gardens as *Spiraea astilboides floribunda*. In general appearance this newer form is about midway between the two, reaching as it does double the height of *Spiraea astilboides floribunda*, being altogether a more select plant and of much greater ornamental value than *Astilbe Thunbergi*. The blooms, which are borne in large plume-like, terminal panicles, are white, with a

slight pinkish tinge on the exterior, while the stamens being also of the same hue, the flowers seen in a mass appear to be slightly suffused with pink. Though sent out by M. Lemoine under the name of *Gerbe d'Argent*, the English translation thereof (*Silver Sheaf*) is generally applied to it. The *Astilbe* in question forms one of a group of three, which were first distributed in the autumn of 1895. The name of A. Lemoinei was applied to the entire group, and the three were announced by M. Lemoine as forms of it. The general aspect of the members of this section is well shown in the accompanying woodcut, the difference between them not being very strongly marked. In addition to *Gerbe d'Argent*, the varieties distributed at the same time are *Panache*, a rather looser and more slender grower, and *Plumet Neigeux*, somewhat dwarfer and more compact, with whiter blossoms.

These *Astilbes* are certainly of a mixed origin, as *Spiraea astilboides floribunda* was obtained by the intercrossing of *S. astilboides* and *S. japonica* (of gardens). The nomenclature of this class of plants is in such a confused state, that one is in doubt whether they are *Spiræas*, *Hoteias*, or *Astilbes*. This last name is certainly the most suitable for members of this section, and that of *Spiraea* should be discontinued altogether for this class of plants, as it leads to no end of confusion. A good illustration of this is furnished by the name of *Spiraea japonica*, which rightly belongs to a shrub often known as *S. callosa*, yet it is far more frequently applied to *Astilbe japonica*, or *A. barbata* as it is sometimes called.

The cultural requirements of *Astilbe Gerbe d'Argent* are the same as needed by its immediate allies, viz., a good deep soil that is at the same time cool and moist. Around the margin of a pond or in some low-lying spot these *Astilbes* are seen at their best, that is when they are sufficiently established to form large clumps, for it is the bold and striking contour of these that is so much admired, and in small plants this feature is to a great extent wanting. They are perfectly hardy, and can be rapidly increased by division. M. Lemoine says his varieties will force as well as *A. japonica*, but it is as outdoor plants, in position such as our own native *Meadow sweet* will flourish in, that their great value lies.

H. P.

Calceolaria alba.—This neat and pretty species is still flowering freely from plants put out quite early in the year, and what is of equal import is the likelihood of the earliest trusses providing a fair amount of good seed. The latter will prove of considerable service, as there has been some difficulty, not so much in securing cuttings and rooting them as in keeping the plants through the winter. Not unfrequently do lifted plants of such things perish during the cold season, but it is another matter when fresh young cuttings perish in a wholesale sort of way.

Stokesia cyanea.—Stokes's Aster was in bud the other day in the garden of Mr. John Maxwell,

Maxwelltown, Dumfries, but although in this stage, it is not likely that it will open before being cut down by frost. It is unfortunate that this *Stokesia* is so late in coming into bloom unless forwarded before being planted out, as so fine an autumn flower would be appreciated even among the numbers of beautiful *Starworts* we now possess. It hardiness is beyond question with us, so that those who exhibit it among hardy border flowers consider themselves justified, although the blooming time has been anticipated by growing and flowering it under glass. I recollect coming across it in a Clydesdale town some years ago just coming into flower at the end of July. It was growing in a greenhouse, and was to be included in a stand of hardy herbaceous flowers in a show at the beginning of August. It is to be feared that doing this was likely to lead to disappointment on the part of some who saw it and thought it had been grown outdoors.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

NOTES ON CARNATIONS.

THE present season has not been at all favourable to these flowers in the open, at least on a hot, dry soil. What blooms I had were small and much disfigured by thrips. In a mass they certainly looked showy, but anything like a trial of varieties was not possible. Perhaps the crimson-coloured *Mephisto* was an exception, this sort proving very sturdy in battling against insects and drought. The whites and yellows were dirty-looking, and fancy striped ones anything but nicely marked. Under glass, however, the blooms opened well, but late, and owing to the extreme heat a short flowering season followed. A type rapidly gaining in popularity is the yellow-ground *Picotee*, and many very handsome varieties may now be had, but it struck me, at exhibitions as well as in my own collection, that the newest kinds, with some exceptions, are too large. Personally, Mrs. Robert Sydenham appeals to me as the best of the class, and this kind has been cultivated some years. Mrs. J. Douglas is another old sort which, like the first-named, is rich in delicate colouring and has petals of first-rate quality. Neither variety grows very large. Countess of Jersey is another of the older division and is a charming kind. *Voltaire* is one of the later-raised varieties, of rather large size, but very beautiful; so is *Eldorado*. *Ladas* is pretty, but somewhat small. *Golden Eagle*, not so good this year as it was in 1897, is a very fine yellow ground. *Stanley Wrightson*, a new heavy scarlet-edged bloom, appeared most distinct and handsome, and Miss Alice Mills, not so highly coloured, is still a choice new kind. Mr. Nigel is a crimson-edged flower, of striking appearance. A newer kind, *Hygeia*, seems likely to find a place among the best. It is a delicate rose-edged flower, of capital quality. *Dervish*, again, should be added to the smallest collections. This is a light-edged bloom, of great richness. Yellow-ground *Picotees* have strong grass; they are therefore of easy culture, and generally the most admired by visitors. New sorts of sterling worth have also been added to the class known as fancies. *Cardinal Wolsey* and *Geo. Cruikshank* are notable types. *Monarch* is very fine. This, I believe, originated in Germany, whence came that grand yellow *Germania* and splendid scarlet *Grandeur*. I like *Perseus* very much. This is a distinct flower, the ground colour buff-yellow, edged red; in quality it is excellent. *Hidalgo* was exhibited well, and is a splendid fancy, but it will be some time before it is generally grown, the stock in existence being so limited. *Garville Gem* is a great favourite, the heliotrope shade being much admired. As an exhibition kind, however, it is too flimsy. *Don Juan*, purple streaked on a buff ground, is a handsome bloom of large size.

Among self-coloured Carnations the most distinct gains are *Endymion* and Mrs. James Douglas. Perhaps one should add *Lady Hindlip*, a splendid scarlet. The first-named is salmon-pink, a delightful shade, the shape and quality of

flower being perfect. Mrs. James Douglas, carmine-rose, is equally fine in shape; the petals thick and handsomely placed. Mrs. Eric Hambro, a pure white kind, is still unsurpassed. Among blush-white Carnations, *Her Grace*, *Seagull*, and *Waterwitch* are the three best, to my thinking, in the order named. *Germania* and *Britannia* are very fine yellow varieties. Both *Corunna* and Miss Audrey Campbell are good. I am not particularly struck with the new *Regina*; the blooms have nice quality, but the growth is rather weak. A pink sort of fine shape and colour is *Exile*. *Braw Lass* is good. *Bendigo*, a purple shade, was not so fine with me this year; it is, however, most distinct. Among crimsons, *Topsy* is of fine size and colour, with rather weakly constitution; *Mephisto* is, therefore, the better generally, as it is a strong grower. *Nox* is a new and very dark kind—a first-rate gain. Mrs. Colby Sharpin has scarcely had a fair trial with me, but I fancy it is the best of the cinnamon or apricot shades. *Winifred* is also very fine. The *Pasha* is discarded; nor is *The Hunter* so good as desirable. *Nabob*, again, is hardly an improvement in the shade of colour first known in the popular variety, Mrs. Reynolds-Hole. *Carolus Duran* will be discarded; it is a sorry-looking kind as I grow it. Mrs. Grey Buchanan is a new sort in this delightful shade likely to prove good. First-class scarlets are *Hayes' Scarlet* and *King of Scarlets*. *Grandeur* is very fine, perhaps better than either, but not of over-strong growth. Mrs. McRae also is a good new kind.

Layering this year is later than usual. This may be a subsequent advantage, as roots quickly form when the grass is well ripened, and I do not care for the young plants to make much top before the winter sets in. H. S.

HARDY WATER LILIES AT GUNNERSBURY HOUSE.

AT Gunnersbury House Gardens may be found, under Mr. Hudson's charge, the most complete collection of hybrid Water Lilies that has been brought together during recent years. The collection now numbers some three dozen varieties, several of which have been added within the last year or so. Of the gardens generally I do not wish to speak now, preferring rather to direct attention to the above subject with some passing observations on the progress of those kinds originally planted out in the lake here. This lake is almost an ideal spot in which to cultivate these lovely aquatics, with here and there huge masses of Bamboos on the very edge of the lake, the roots thereof taking in their fill of the moisture and rich mud that have played so large a part in making them what they are to-day. Of the Water Lilies themselves, would-be cultivators will doubtless learn with satisfaction that some of the earliest planted have now spread out into huge masses, of which the foliage alone is a sight to behold, so abundant and so dense has it become in a few years. Some of these masses are now many feet across, and, judged by the standard of some fine blocks of the old white kind at either extreme of the lake, may safely be regarded the equal of the old kind both in vigour and in freedom of growth. So large indeed have some of these early masses become, that it is a question whether a division of some of them would not be attended with greater freedom of flowering. This is suggested rather for the better display of the blossoms and the possible effect derivable therefrom by spacious grouping of the kinds than from any possible notion that as yet—though of course this is possible in time—the plants are in themselves overcrowded. Even if they were, nothing could be more gratifying in so short a time. As I saw these original clumps a year or more ago, I confess I could not conceal my surprise at the

progress the plants have made, a fact alone which speaks volumes for the vigour of these lovely hybrids. Indeed, this innate vigour is of an importance as supreme as that of hardiness, for without these essential qualities, the new colours and lovely flowers would have been worse than useless to our gardens. But as the facts are, their value to our gardens is only greatly enhanced, opening out, as it were, an entirely new era for aquatic gardening the possibilities of which cannot now be foretold. This much, however, is obvious, for these lovely floating pictures in the landscape will in the future appear where only the waters of the pond or lake in the past met the eye, and these not always in creditable form.

All this is apparent at Gunnensbury, and here at least will be found a water-garden for those who dwell near London rich in the treasures of this race of plants. That it is even now rich in these lovely hardy *Nymphaeas* may be gathered from the fact of existing numbers alone, the majority of which are novelties, and not a few of them very rare at the present time. Since my last visit many beautiful things have been added. This is apparent in two ways; first, by the small size of the plants themselves, and, secondly, by their nearness to the margin of the lake, where, it may be said, all new-comers are located at first. At the sides the water is shallow, and deepens with the outward distance till some 6 feet or so is reached. Many of the fine masses referred to are already in 3 feet deep of water, and right well have they succeeded. There is this consolation, that such things grow apace in a remarkable way when in suitable water, and, of course, provided such unwhished-for things as water-rats are not at hand.

Some of the more recent additions to the collection here are *Ellisiana*, a fine purple-carmine, very brilliant in shade; *Gloriosa*, another of a similar shade, but very rich and dark; *Lucida*, almost vermilion in the striking shade of colour; *Mariacea flammea*, reddish purple, flushed with white; *M. rubro-punctata*; *Caroliniana perfecta* and *C. nivea*, the former salmon, tinted flesh, the latter white, and both exquisitely fragrant; *Odorata exquisita*, handsome foliage, and rose, carmine, white, &c. Several of these, it will be noted, have flowers of a remarkably brilliant tint of colour, and the effect of such things in the water in goodly-sized patches can scarcely be conceived. The range of colour, too, and the varying tints combined in certain flowers are remarkable, many kinds being extremely chaste and, what is equally valued, delightfully fragrant. Nor is it a flower or two and then past. Far from it, seeing they yield a succession of blooms for many weeks in succession. Viewed, too, from the practical side, these things will come as a boon equally to the gardener of the future as of to-day where an unlimited supply of flowers has to be maintained for furnishing tables and the like. For such work these hardy *Nymphaeas* will certainly prove unique flowers unequalled for their beauty and suitableness, abundantly produced, too, with no care or thought of annual preparation or propagation, or requiring elaborate glass erections to bring them to perfection. E. J.

The Florida Velvet Bean.—There is much in a name, and this plant has had considerable attention attracted to it of late, materially arising from its attractive designation. Some time since I had occasion to ask Mr. W. Watson, of Kew, for information respecting this Bean. Mr. Watson said that "The Florida Velvet Beans are seeds of a species of *Mucuna*, possibly a cultivated form of *M. pruriens*. They are also grown

in the Mauritius under the name of *Pois Mascati*. We have plants growing at Kew of the Florida Bean, and when they flower the species can be determined. The seeds are like those of *M. pruriens*, which is a tropical annual and is grown in India as a fodder plant. It is probably as hardy as the *Scarlet Runner*." Whether the true character of this Bean has since that time been determined at Kew I do not know, but possibly Mr. Watson will kindly enlighten us. *Mucuna pruriens* is known as Cow-itch, having stinging properties. The appellation is an ominous one as to the usefulness of the Florida Bean if it possesses the same irritating properties. It seems as if someone wanted to push this plant into notoriety, but what will thrive well in the tropics may be but a poor plant in England.—A. D.

Striking Geranium cuttings.—Very many gardeners place their boxes or pots containing cuttings of Geraniums by the sides of garden walks or in some other open position, and the plan answers very well so long as the cuttings are taken in good time and the weather remains fine. It often happens, however, that cutting-taking is postponed till as late a date as possible, gardeners not liking to mar the appearance of the flower garden, and the cuttings if placed out of doors do not stand such a good chance, especially if the weather sets in wet. Many of the cuttings decay at the base, others rooting indifferently and wintering badly. The best and safest place is a cold pit or frame. The lights can then be drawn over them in rainy weather and still plenty of air given. Another thing frequently receiving too little attention is the compost the cuttings are put into, some seeming to think that anything will do for Geranium cuttings. In close soil, which becomes closer still from repeated waterings, roots form but slowly; whereas if a fair quantity of leaf-mould and coarse sand or grit is added, they callus and root in a minimum of time. Such plants make speedy growth when potted off in spring; whereas badly-rooted cuttings can never make up for lost time, and are always an eyesore in the flower garden.—J. C.

KITCHEN GARDEN.

POTATOES.

WHERE ground has been well cultivated and manured the Potato crop is a good one on the light sandy soil of this neighbourhood, but on many of the allotment gardens and in fields, where planting was late and ground poor, hardly any top-growth was made and the crop is light. In gardens under good culture the tubers are very fine and plentiful, and there will be with most varieties a difficulty in obtaining enough medium-sized tubers for planting. Though disease appeared very early and the haulm was rapidly blackened during a week of wet weather, the crop was then fully grown, and the extreme drought which supervened more than a month ago, and has continued till now, arrested the spread of disease to the tubers of late sorts, so that they now lift clean and good. Opinions vary greatly as to whether planting should be carried out early or late, but the results in either case are governed by the kind of growing season in store, and no set rule can be followed with a certainty of being the best. In some years supertuberation, which spoils the quality of the crop, is prevented by late planting, and the medium-sized tubers then obtained are more valuable than the big and ugly ones coming from early plantings, but this year the earliest planted have given by far the best crop, and as there has been no "growing out," the tubers are handsome in shape and clear in skin. Perhaps the best way to ensure good quality for home use is to plant one half the main crop in March and the other half at the end of April. One or the other

lot will then be suited by the season whatever it may turn out. Lifting is now completed here, and I am able to give some report of the relative value as to cropping of the varieties grown.

Among earlies, the only one of the Ashleaf varieties now grown here is Veitch's Ashleaf, and this has turned out particularly good, giving a much heavier crop than it usually does. Sutton's Ringleader and Duke of York were magnificent, but the former of the twain takes the disease too freely and too early to please me; indeed, during the cold days and nights of May and early June some of the frame-grown plants of this variety developed it, a thing I never knew to happen under glass before. It did not spread much, but the smell and appearance were unmistakable, and a few of the tubers turned out badly affected. English Beauty, a rather new second early, merits its name, being very handsome and a good cropper, but the quality here was quite third-rate, a failing that very handsome-looking varieties too frequently have. With Snowdrop I am rather disappointed this year. I have for some years made it a standard variety, its quality being of the very best, and the season over which it is available and good being longer than that of any other Potato I know. I never saw it make better growth than it did this year, and the plot on which it grew looked better and more even than any other in the garden, but the tubers, which are never more than medium-sized, have turned out decidedly smaller than usual, so that they do not bulk at all well. Probably this variety is following in the footsteps of another medium-sized variety, Covent Garden Market, of which I thought and wrote very highly for some years, but which was eventually discarded owing to showing signs of wearing out.

Medium-sized Potatoes are the best for eating, but when the varieties which have produced them take to dwindling below the size which can be so described, they are expensive to grow and wasteful of ground. My experience is that many, if not all, Potatoes wear themselves out in some soils, and that they may be retained too long to be profitable. Windsor Castle is the best second early I grow, taken at all points, and has given a grand crop this year. Its quality is first-class in spite of its being a large Potato. Unfortunately, it is rather susceptible to disease, so that it is not to be entirely depended upon. After discarding the old American variety Early Rose some years ago on account of its tendency to disease, I was tempted to grow it again this year, but shall not repeat the experiment. It is a fine cropper and very good eating, but these qualities do not compensate for the loss of half the crop.

Among main crop varieties, Syon House Prolific sustains the good character I gave it last year and is again splendid. Another from the same source, Syon Main Crop, grown for the first time, shows no extra cropping qualities here, and has not yet been tested for quality. It turned out a fair crop of large pebble-shaped tubers, but it must have a further trial before its value is fully ascertained. Carter's Snowball is a fine quality main crop variety of good appearance, but it has never proved a heavy cropper here. Sutton's Main Crop is a good cropper, but inferior in quality. The Bruce is a very trustworthy Potato, and I expect it to be, as usual, of excellent quality when the time comes for using it, but I have never seen any difference between it and Magnum Bonum since the first year I grew it, and probably the extra crop it then gave may be accounted for by the seed coming on to new soil. Of Magnum Bonum

I got a fresh stock from heavy soil this year and the results have warranted the change of seed, for the crop is much heavier than is usual with this popular variety here. Although Potatoes are universally grown throughout the country and on greatly varying soils, there can be no doubt that they are much affected by the nature of the soil on which they grow. In judging allotments this year I have visited some parts of this country where the top-growth made by the Potatoes has been very meagre, only reaching a few inches high, and before the middle of July much of it had turned yellow or withered; still it was surprising to see the heavy crop, out of all ordinary proportion to the top-growth which had already formed and ripened on some varieties, while others, popular and good in other districts, were very inferior. I find that certain varieties suit certain soils, so that it is wisest in dealing with Potatoes not to be guided too much by hearsay, but to experiment for oneself. J. C. TALLACK.

Greenwich Park, Bury St. Edmunds.

Potato Syon House Prolific.—I had a good breadth of the above variety of Potato planted to ascertain whether it would again prove as satisfactory as it did last year. The tops having ripened off, the crop was lifted lately, and I am pleased to say that as regards quantity and quality the results are very satisfactory. I have not tested the cooking qualities, but, judging by the clean, sound look of the tubers, they will be all right in this respect. Last winter I considered it one of the best cooking Potatoes I had, so excellent was the flavour. It is without doubt a great acquisition for private gardens, and the result of this season's trial will induce me to grow it more largely still another year.—A. W.

White Artichokes diseased.—Touching the short note on Jerusalem Artichoke disease which appeared in THE GARDEN of September 17, can you offer any suggestion for destroying the fungoid germs which doubtless remain in the soil during the winter? Will soot, or lime from gasworks, or any other substance dug into the ground be likely to get rid of the disease?—W. K.

. Seeing that the stems at about 1 foot from the ground are the first part of the plant attacked, I do not think that any such things as "W. K." suggests for digging into the ground will be likely to stamp out the disease, though they might destroy some of the resting germs. Careful attention to rooting up and burning all plants attacked before the spores ripen appear to be the only practical method, and in doing this do not forget to examine any Sunflowers, annual or perennial, that may be growing in the garden. I believe that the first attack here began on some annual Sunflowers some years ago, but as only a plant or two was attacked here and there, very little notice was taken of it until it attacked the white Jerusalem Artichoke, which seems particularly susceptible to it. I have just pulled up and destroyed a dozen or more plants recently affected.—J. C. TALLACK.

Harvesting Onions.—But little time and labour have had to be expended on the harvesting of spring-sown Onions this year. So thoroughly have they ripened in both tops and bulbs, that all that has been necessary was to let them lie on the ground a day or so, when they are ready for storing. So firm and well ripened are the bulbs, that not the slightest difficulty should therefore be experienced in keeping them through the coming winter months. The tops have ripened off so close to the crown, that it will be impossible to tie them in bunches and suspend them on ropes this season, a plan I usually pursue. They will have to be spread out three or four thick instead, and this I shall be enabled to do in a disused fruit room, the shelves in which come in admirably for that purpose. All the same, I think they keep longer when suspended under the roof of a shed, so long as frost cannot damage

them, as a current of cool air is then continually passing freely amongst them. I do not grow any of the extra long-growing varieties, and this year have confined myself to Maincrop, Bedfordshire Champion, Veitch's Globe, and James's Keeping. Having to produce a large quantity every year, I find these the best for spring growing, and in my opinion no better Onions can be grown where a long and continuous supply has to be kept up.—A. W.

THE POTATO CROP OF 1898.

THIS has not by any means been the most favourable season in this part for the production of fine tubers or heavy crops, although where the soil was in good condition fair samples have been grown and the tubers of excellent quality. Here we suffer much from late spring frosts, so that it is necessary to be careful not to plant too early, and although every precaution is taken to guard against being caught, it sometimes happens that after a spell of bright sunshine we have cold, frosty nights, such as that experienced here on the morning of May 13, when the thermometer fell to 25°, or 7° of frost. There were several slight ones after this date, but as the growth of the Potatoes had been cut down to the ground by the former frost, it had not started again. It is a fact that when once the haulm has been injured the tubers are never so large, therefore the crop cannot be so heavy, and as it is impossible to grow the same weight from late-planted sets unless the seasons are exceptionally favourable, it is an inducement to run the risk of having the haulm cut down. Here no planting was done until April 13, but as the winter had been so mild the growth on the sets was unusually forward; hence the reason that it so soon appeared through the soil. Of the sixty or so varieties that were grown here, it was interesting to watch their growth and note the difference both in crop and quality of tubers. If we take the different sections, such as round, pebble, and kidneys, and divide these into early, medium, and late, there is doubtless something to learn both as regards planting, soil, and space allotted to each. It has for some years been an important point with me to test each variety thoroughly before passing an opinion upon it, but it is not always possible to do so in one season, as there are various things to be taken into consideration in so doing. For example, when a new variety is sent for trial, it is seldom that any idea is given of its habit, whether robust or otherwise, and as this cannot be ascertained for some time, when several strange varieties are planted side by side some are sure to suffer, as the weaker ones will become overgrown by those requiring more room. Last season I was much struck with a variety sent me for trial under the name of Ideal. The haulm is of medium growth, tubers of even size and excellent quality. This being a midseason kidney variety will no doubt become very popular. From two rows 20 yards each in length the produce was two sacks, or a little over 17 tons per acre. There was not a diseased tuber in the whole lot. Invincible is another first-class new variety. The tubers are kidney-shaped, skin rough, flesh white. The haulm is of medium strength, inclined, if anything, to be robust. The crop was all that could be desired, as the produce was at the rate of 24 tons per acre. Of the round mid-season and late varieties, the most productive was Snowball. Two rows of this were also planted, and the crop was such that those who saw it were much astonished. The tubers are a flattish round, even in size, good in shape, having very shallow eyes, and

the quality is all that can be desired. The produce was at the rate of 26 tons per acre. This variety is rather a strong grower, and should therefore be planted at least 3 feet apart where the soil is in a high state of cultivation. Monarch is a splendid white round variety. The tubers are even in size, perfect in shape, good in quality, and it is an excellent cropper. The haulm does not grow quite so strong as that of Snowball, but the tubers resemble them somewhat in appearance. Goldfinder is a handsome white flattish round variety, even in shape and good in quality. The haulm is not very robust, therefore well suited for growing in a garden. With me the crop was all that could be desired. In Progress the haulm was too strong on our heavy soil, spreading over some of the others next to it. There are, however, some very handsome tubers, but the crop was not a heavy one. Motor also grew too strong, though the crop was fair and the tubers sound. Industry produced a fair crop, but the haulm grew too strong. Duke of York is a beautiful white kidney-shaped variety, and will no doubt come to the fore as an exhibition kind. Syon House Prolific has done wonderfully well this season, the tubers being large, even in size, and well flavoured.

It is some time since I had so few diseased tubers; in fact there were not more than a dozen in the whole, and so clean are the skins of the tubers that one would think they had been grown in the finest Potato soil possible. Some of the late kinds have suffered from the long-continued dry weather, the tubers not being so large as in former years.

Buckley Park, Uckfield. H. C. PRINSEP.

CLUB IN CABBAGES.

ENCLOSED are specimens of Cabbage and Cauliflower that have clubbed, and I shall feel grateful to you for any information as to how it is caused and what I can do to prevent the same in future. Out of about a thousand plants not one is free from this scourge. My spring-sown plants nearly all went the same way after they were planted out and had got to be a good size.—A. K.

** The specimens sent were very bad indeed, and to eradicate the same strong measures are necessary. The cause of clubbing is the Cabbage fly (*Anthomyia brassicae*), the maggots of which when full grown leave the plants and turn to pupae, inside which the flies form. These flies are of an ashy grey colour. The remedy often advised is of little use to growing plants, the pests being in the earth. The best way is to rid the soil for future crops. I have watered with a solution of petroleum with partial success, and also with carbolic acid mixed with soap-suds. The plants are free for a time, but it is only a partial remedy and useless with plants badly attacked. The only remedy is to destroy the plants and prevent the pest reappearing by dressing the soil. The evil is aggravated by planting year after year Brassicas in the same place. Other plants, such as Onions and Spinach, should not occupy the land for a time. The soil would be benefited by resting, a thorough stirring in winter, and growing a green crop that could be dug in. For years I have had land to deal with that will not grow two crops of any kind of Brassica without clubbing. In a limited space one must at times plant a similar crop, and it can be done if strong measures are taken to rid the soil of the pest. There is no better time than the present. For some years I have found that land in a bad state was not the best position, even after dressing, for the Brassicas, as there is always a tendency to club even with small plants. I find it a good plan to plant such land with early Potatoes. These are cleared early, and the soil can be again dressed, and is sweetened by the time it must be cropped in the early spring. The best remedy is

gas-lime, which I use liberally on the land before cropping, and in your case it may be given freely. A good dressing of fresh gas-lime spread over the surface for a few days and then dug in will be of great assistance in destroying the pest. It is well to break up the lime as small as possible, and if the land is double-dug or trenched, give a small dressing under the second spit and let the soil be as rough as possible after trenching. Soot also is a grand fertiliser. Omit animal manures for a season, using instead guano, superphosphate of lime, or nitrate of soda, which may be given in the early spring in wet weather. It is a good plan to occasionally fork the surface over before cropping. Ordinary lime, burnt refuse, and wood ashes mixed and placed in the rows before planting will keep the plants clean for a season. I always use a little fine gas-lime before cropping with any kind of Brassica.—G. W.

GARDEN FLORA.

PLATE 1192.

CINERARIA STELLATA.

(WITH A COLOURED PLATE.*)

To those who have partially tired of the perfection of form (so-called) of the florists' type of *Cineraria* has been afforded no small amount of pleasure in the introduction of the star-like varieties. The florist no doubt who adheres rigidly to the rotund form of blossom with its almost mathematical shape will not view with any special interest this more recent introduction, but look upon it with disfavour. Without for one moment attempting to detract from the merits of the florists' type as now grown, it must be stated that this new development of the *Cineraria* has very much to recommend it. To many it will come as a welcome relief, affording fresh variety to a charming class of spring-flowering subjects. As conservatory plants they are specially to be recommended, being more easily associated with other and taller subjects than the florists' *Cineraria*. They would be fitting companions to the early-flowering white *Marguerites*. Already there is a pleasing variety of colour, no less than six forms being represented in the accompanying plate. Upon observation it will be readily acquiesced in by many readers of *THE GARDEN* that the self-coloured varieties are much to be preferred to the bi-coloured variety, white, tipped with rosy pink. The self colours when of decided tints are much more effective. In a cut state these *Star Cinerarias* have much in their favour, being better for arranging in many ways than the others are by reason of the length of stem obtainable; whereas from point of effect also an advantage is gained by the less density of the corymbose heads of flowers. It is to be hoped that the florist will not attempt to "improve" this more recent introduction in either the size or the form of the individual flowers. If he can reduce the size of the leaf it would be an advantage, and we would thank him for it. The cultivation needed is nearly the same as for the usual run of *Cinerarias*. Whilst shade to a certain extent is beneficial, too much will be harmful. Overpotting, again, should be guarded against, also overcrowding.

SOUTHRON.

Messrs. Sutton and Sons send us the following notes *re* the varieties of *Cineraria stellata* figured to-day:—

This pretty race of *Cineraria* is the result of crossing several varieties of the florists' *Cineraria* with *C. cruenta* and *C. multiflora*. It is not the

* Drawn for *THE GARDEN* by H. G. Moon in Messrs. Sutton's nursery at Reading. Lithographed and printed by J. L. Gouart.



result of one plant selected from either of these crosses, but the intercrossing of a number of distinct forms resulting from the original crosses, all of which varieties were selected on account of similarity in habit and flowers. The special points which have been aimed at in selection for seed have been freeness of flowering, small stellate flowers, and white, bright pink, and blue flowers in contrast to the magenta shades which were so abundant in the result of the first crosses. The exceptional value of these plants is not so much for the greenhouse as for standing in groups on the floor of the conservatory or dwelling-house; also for their great usefulness for cutting for the table. The larger sprays in large vases, with abundance of Maiden-hair Fern, make a most beautiful decoration. This *Cineraria* has great merit in the length of time the flowers remain fresh after they have been cut, also the ease with which they travel, probably owing to the stem and branches being more woody than in the large-flowered greenhouse *Cineraria*. It has an exquisite perfume, which has been compared to that of the Hawthorn or *Heliotrope*.

The culture of *C. stellata* is of the simplest description. A compost of three parts of loam to one part of leaf soil, with a sprinkling of coarse sand, will give the best results. As the pots become filled with roots frequent applications of liquid manure may be given. Temperature, watering, and fumigating must be carefully attended to, as in the case of the large-flowered types.

THE WEEK'S WORK.

HARDY FRUIT GARDEN.

ROOT-PRUNING.—Where there is any need of this being done, it will not be advisable to postpone the work any longer. Even if the growth be backward, with the foliage still immature, that should not be any reason for delay. This very fact may have a tendency in the right direction, and far more so than any excessive top-pruning will do. In some instances it will not, perhaps, be advisable to do the operation completely in one season, as, for instance, in the case of somewhat large trees, which ought to have been attended to a few years earlier. These should only be half done or a trifle more so, finishing the work in twelve months' time. Regulate the distance from the stem to that at which the roots are to be severed by the size of the tree in question. It will be a good rule to add one third in length to what would be allowed were the trees to be completely lifted, for it is not an undue amount of checking which should be the aim. If a tree be cut about half or slightly more around, it will be possible to incline it so as to get at the most important roots, viz., those with a downward tendency. It is these which will need most attention. Let the cuts be made as clean as when pruning the top branches with the wound downwards and never upwards, so that the young roots as they are emitted may trend in the right direction. Do not attempt to do much pruning to the medium or fibrous roots, but rather leave these as much undisturbed as possible, this being another reason for keeping further away from the stem than in lifting. Leave some indication to each tree as to the portion operated upon; this will save trouble another season. When the soil has all been carefully replaced, no manure being used with it, let the trees be well watered so as to settle it down at once, and in the case of top-heavy ones some security must be afforded in windy positions. Mulching the trees upon the surface is advisable in all light soils. This will not have any material tendency in fostering another rank growth. When wall trees are to be operated upon, look to that side of the tree first which has the stronger growth if there be any difference. Another good plan with these is to go direct for the centre of the tree under the main stem, leaving, if need be, the sides nearer to the wall undisturbed.

When dealing with Peaches, Nectarines, Apricots, or, in fact, any tree where the tendency is to make downward roots or feeders of gross growth, it will be found a good plan to push two or three good-sized roofing slates under the centre, so as to prevent this being done again as far as possible. If Apricots are giving trouble by making too much growth it will be as well to cut the roots off the whole length of the borders at about 3 feet or so from the wall. This if done annually will tend towards the fruitfulness of the trees. The same remark would apply with equal force to Cherries in luxuriant growth, to prune which at the branches and not at the roots at all is simply absurd. Do not, on the other hand, be too severe upon them. It will not be necessary in the majority of cases to add any fresh loam even for wall trees, but a little bone-meal may with advantage be added for all stone fruits upon non-calcareous soils.

LIFTING AND RE-ARRANGING TREES WHERE OVERCROWDED.—This work also should receive early attention, thinking the matter out well beforehand so as to make the most of the labour at the time, having fresh positions selected to suit the circumstances of each case. Trees are often planted more thickly than it was ever intended they should remain, but for some reason or other the work of removal is deferred till it may, perhaps, have been given up altogether. In many instances it is most desirable to allow for extension of growth in this way. It is infinitely better to do this than to restrict the growths by any undue limitation of pruning. Some of the finest examples of wall fruit culture are to be noted where the extension of promising trees has been adopted. No regular distance from tree to tree can ever be entirely relied upon, for in scarcely any two instances will the growths be of similar vigour. It is better to have large trees, still thriving and extending, so far apart as to allow of cordons for the time being between them. When removing large trees, take every possible pains with the work, adding both fresh loam and manure to fruitful trees. Do not let temporary crops upon the borders stand in the way of doing this work in a systematic manner. So far the weather is quite favourable for getting this work forward; it is better done now than after heavy rains, assuming, of course, that the trees have been kept watered sufficiently to prevent the soil from becoming excessively dry. Do not hesitate to do away with any tree that is in an unhealthy or otherwise unprofitable condition. Overcrowding will at times result in this. As I am writing these lines a case occurs to me of a fine wall which was excessively overcrowded, and upon which many words of praise were expended for the rapid filling up and the fine appearance of the trees at the time. Years have elapsed, and on no one occasion do I remember to have seen a good crop throughout its length. Now the trees are doing their best to kill each other from want of space. Exhaustion at the roots in such an instance is only a foregone conclusion. When removing large-sized trees do not hesitate to syringe them afterwards, or even shade with mats for a time if necessary.

PREPARING FOR NEW TREES FROM THE NURSERY.

—Let this work be proceeded with without any delay. I will assume that previous hints have been taken and that the requisite numbers have been marked, or at least ordered, for early delivery after rains. Avoid, if possible, the planting of any one kind of fruit tree after another of its kind. If this cannot be done, then remove a good proportion of the soil, adding fresh loam if possible, but if not, then take it from the open quarters under vegetable culture. Note the requirements in every case as regards any manurial addition. As a rule the addition of nitrogenous manures is a mistake. Only in the poorest of soils or those of a very light character would I recommend it. To encourage luxuriant growth in young trees is altogether a mistake. Mulch with farmyard manure in every case certainly, but do not incorporate it with the soil, bearing in mind that a moderate growth is more

desirable than a rank one. Add for stone fruits such as old mortar rubbish, bone-meal, or artificial manures in a moderate degree. These will afford the best plant foods for fruit trees. The holes for such trees as are thus being added should be got ready before the trees arrive if possible, so that no laying in by the heels or after exposure of the roots is permitted. In doing this move the soil to a good depth and bring up a lower spit if it be of the right kind (neither gravel in shallow soils nor clay in deep heavy ones can thus be brought up with advantage). If several trees in a stretch are to be taken out, it will be possible to thoroughly move the soil and treat it for the new ones in a better fashion. During planting do not forget to add the slates afore alluded to if by experience already gained a strong growth is anticipated; nor the watering also, which is always an important matter. In planting new trees, be careful not to plant any deeper than they were before; each one will sufficiently indicate this. Do not attempt any nailing or tying of wall trees in a permanent manner, nor, on the other hand, let them touch the wires if these be galvanised. Both Peaches and Nectarines will invariably suffer if the wood of the current year touches the wires in such instances. On the other hand, secure by means of stakes all trees in the open quarters, and bush fruits also if large and in windy positions.

PLANTING FRESH TREES INSIDE.—This has not been directly alluded to, but in most instances the foregoing remarks will apply. An important item, however, is the drainage, without which the amount of water that will of necessity be given the growth will be too excessive in the case of Peaches and Nectarines. Here, again, some slates will be useful if concrete be not used. Upon heavy or retentive soils it will pay to concrete the bottoms of the borders at the start; it will then be known where the roots are, being thus easily under control. Select as good loam as possible for inside borders, but note previous remarks as regards manures in addition thereto.

HORTUS.

KITCHEN GARDEN.

GENERAL WORK.—Under this heading there is a lot of work needing almost daily attention. At this season the quarters, unless kept neat, will present an untidy appearance, and a free use of the Dutch hoe will do much to keep down weed growth. So far there has in most parts of the country been but little rainfall, and though the soil has dried less, owing to the fall in the temperature, such plants as Celery, salads, and most kinds of Brassicas need rain badly, while newly-planted things will need watering to keep them going freely. I fear in the southern parts of the country there will be none too good a supply of vegetables for the early winter. The best plants this season are those grown in land not newly dug. In my case most of the Kales and late Broccoli followed Strawberries, and these have done much better than plants in loose soil—I mean such as in early Potato quarters. With a scarcity of green vegetables it will be well to pay more attention to the spring Cabbage and early Cauliflower planting. Much may be done even at this late period to eke out the supply of the vegetables that will soon be cut down by frost. I have kept dwarf Beans for weeks by covering at night with mats supported by rough boards. Marrows will also keep for weeks if put into a cool place, the stalk end being in a couple of inches of water, with a little charcoal in the water to keep it sweet. There will be no difficulty in protecting the runner Beans, such as Tender and True. This season this type of Bean has been most serviceable, as it holds out better than the dwarf section, which has been a difficult matter to keep free of red spider. This new class of Bean also needs less attention than the Scarlet Runner. Land cleared of crops should be made neat. I am busy wheeling out manure and lime to quarters cleared of crops, as the surface being in a dry state it makes the work easier. In my case I can cart the materials to the spot desired, having

broad walks. Such crops as Brussels Sprouts planted early will be benefited by having the lower leaves removed. They are turning in much earlier than usual. In many places it may be necessary to use the sprouts, but this should, if possible, be delayed, as I note they are somewhat strongly flavoured. They need more moisture, frost also to sweeten the crop. Rhubarb will soon be needed for forcing, and where the Apple crop is poor this will be found useful. The larger portion of the leaves may now be removed to admit air and moisture more freely to the roots and swell up the crowns. Seakale will, with autumn rains, make a later growth, and if needed for early forcing should have a goodly portion of the old leafage removed. A few roots may be lifted if very early supplies are needed. Those placed under a north wall for a short time and covered with leaves or mats will force more readily than roots lifted direct and placed in heat. When the root crops, such as Potatoes, have been lifted, it may not be convenient at once to dig the land; indeed, in my case it is much too dry. It may be hoed and raked over to clear weeds and rubbish and present a neat appearance. The walks will now repay for more attention in the way of sweeping and rolling. I notice edgings of Box are making much later growth than usual. This should be lightly cut if portions have grown more in some parts than others.

SPRING CABBAGE.—I have this season had more trouble with the July sown Cabbage than ever I remember. The seed in the first place germinated badly, and there was a difficulty in keeping birds from the tender seedlings, while the heat and drought caused so many plants to go blind, that I fear in many gardens plants are scarce. This is more annoying in such seasons as this as the winter green crop will be scarce, it being impossible to plant owing to drought and heat. To make up for lost time it will be well to make later plantings. I advised sowing later in case of the earliest lot being too large. These later plants will now be small, but they will soon go away if we can only get some rain. The earlier-planted lots do not look any too well, and will, I fear, not be reliable. For this reason it may be advisable to make a larger planting of the second or later sowing, and any small seedlings left over will prove serviceable for February or March planting. If these are pricked out in rows a few inches apart they will make a better growth than if left in the seed bed. It is well to make the soil firm if at all light previous to planting. Coleworts grown for latest supplies will be valuable this season. These made little growth earlier in the season, and now will little repay for supplies of food in the way of liquid manure or a fertiliser given in rainy weather.

LATE DWARF BEANS.—Some few weeks ago I advised sowing these for the latest supply. I fear in many gardens, unless ample supplies of moisture have been given, the plants will not be so good as usual. On the other hand, if at all strong there will be a fair return, as the season so far has favoured setting. It will be necessary to protect the plants. Any kind of protection that will ward off night frost will suffice. If frames or glazed sashes can be spared, so much the better. I use thatched hurdles, which can be readily placed in position at night and are most effective protectors, as after the Bean crop is cleared they come in for the late Cauliflower or early Broccoli when lifted and placed close together. With late Beans the most important detail is to admit ample light to the plants, as the pods swell more slowly at this season. By removing old leaf-growth and keeping clean the pods will grow till the end of this month. It will be well to give the plants assistance in the way of moisture and food, and to water so that the plant is dry by nightfall. In mild autumns I have had good pods well into November from late sowings.

WINTER SPINACH.—Like most of the shallow rooting crops, the plants sown in July or early August are not so good as usual, owing to the drought. On the other hand, in northern locali-

ties there has been a heavy rainfall. I would advise thinning at this season, as a thick plant is the first to feel the effects of frost, and winter Spinach should be grown as hardy as possible. More crops are lost by thick sowing and leaving the seedlings too thick. Plants suffering from drought will well repay liberal supplies of moisture. Previous to watering it is well to give a dressing of soot to assist growth and at the same time give that healthy green colour so much liked. If liquid manure can be spared, Spinach will take it freely. I find it best to give it diluted if at all strong. Far better give it often than in a fresh state. Late-sown plants should be thinned as soon as they are large enough to handle, and also given a dressing of soot to ward off slugs, which have a weakness for the young seedlings. These late-sown plants will give a good supply next spring, when the earlier sown are running to seed and before the spring-sown are ready.

CELERY, no matter whether early or late, with me and many others is, I regret to note, so badly infested with the fly or grub, that it is impossible to keep it down, whatever precautions have been taken. My hope now is that by the middle of the month the climatic changes must be in favour of a cleaner growth. Want of moisture is the cause of the pest having made such headway. Soot dressings and hand-picking are the usual remedies, but one can only go so far with the latter. I recently saw plants without a leaf, but this is worse than the fly, as in such a condition the plants will fail to grow. It will be well to leave any plants so affected as long as possible without moulding up. If the plants are well fed, clean leafage will soon be made. I have found a weak solution of soluble petroleum given at night do more good than soot dressings. The pest is in a measure proof against dressings of any kind, but I notice it does not spread to the foliage that has been well covered with the mixture advised.

LATE CELERY.—The plants should get liberal supplies of water at the roots previous to earthing up. In my case the soil is so dry that much rain will be required before it would reach the roots. Now is a good time to give a final watering before moulding up, and a little salt will add to the flavour. This is best given before water is applied, as then it reaches the roots more readily. All plants, either late or early, previous to being earthed up will have made some small leafage, which is now best removed. At the same time side shoots should be pulled away. If the roots are at all dry, which is often the case, it is a good plan to flood the rows a few hours before moulding up. Much better results will follow if the latest plants are not moulded up till very late. Liberal supplies of food may still be given, but avoid liquid manure in a crude state. This is not good at any time, especially at this season of the year. A little soil may be given the plants fortnightly, but leave the final earthing up as long as the weather is open. S. M.

BOOKS.

THE FRENCH HORTICULTURAL SOCIETY OF LONDON.

It is always pleasing to watch the growth and expansion of a well-managed society, be it specially concerned with horticulture or not. The French Horticultural Society of London has every reason to be proud of its position, for although only established nine years ago, and never having the attractions of a show at its command, it musters, according to the annual report, 424 members, many of whom are well known in their several departments and comprise residents in all parts of the globe.

The society's annual publication now under notice is certainly as interesting and as well produced as any of its predecessors, and the matter leaves little or nothing to be desired. It is, of

* "Bulletin de la Société Française d'Horticulture de Londres." (20, Bedford Street, Strand, W.C.)

course, chiefly intended for members, but much that it contains will commend itself to others than those on the muster roll of the society. Leaving out with just the briefest mention the lists of officers, members, rules, library accessions and the like, we find that the Bulletin contains concise reports of each monthly meeting held during the past year together with a special account of the annual dinner held in January, a most enjoyable and successful gathering and one fast increasing in popularity.

The purely literary portion of this publication consists of a series of papers by the members on such subjects as Anthuriums, Pelargoniums, Lilies, Adiantums, Fuchsias, Bouvardias, Orchids at Kew, Caladiums, &c., some of which indicate considerable pains being taken by the young authors, one of the most notable being the article on the National Chrysanthemum Society's Exhibitions of 1897. Some of the articles are illustrated and an excellent portrait of Mr. Harman-Payne forms the frontispiece, accompanied by a notice from the pen of Mr. Geo. Schneider, the worthy president of the society, whose efforts in improving the relations between English and continental gardeners are worthy of the highest commendation.

ORCHARD AND FRUIT GARDEN.

PLUMS IN 1898.

GENERALLY speaking, Plums may be said to have been a variable crop. In some gardens and districts there were heavy crops, in others a scarcity. On the whole, Plums in these gardens have been very good. Some trees were so heavily laden that severe thinning had to be resorted to in a green state, and in the case of Victoria and Pond's Seedling, early gathering for daily consumption was necessary when ripening to allow the fruits to attain a normal size. These are fine cooking and preserving sorts, and are prized more than all others for these purposes. When of large size and nicely ripened, Pond's Seedling is inquired for here as dessert, although it is not usually considered as such. It is a long time since Plums were so late in ripening as this year. In early August none but Early Rivers was available for any purpose. Washington, Orleans, and Oullin's Gage, sorts I can usually gather in the early part of the month, were then almost green, and at any rate quite hard. Washington was in use at the end instead of the first week of August. Jefferson's, another very useful midseason sort, I can usually gather in quantity about the middle of the month; this season I could not gather enough for one dish on the last day, although trees occupy east, west, and south walls. Much the same remarks apply to Kirke's, a dark Plum of similar quality to the last named. Gages of all kinds have been abundant, and, taking the nature of the season and the weight of the crop into account, they have been very fine. This proves that the roots of the trees are sufficiently deep to escape the much-prolonged drought, an advantage certainly in such seasons as the present one has been. Trees whose roots are near the surface suffer considerable loss of vitality in cases where no water is available for them. A mulching checks rapid evaporation and wards off, to some extent, the great heat from the sun, but it affords but poor relief to languishing trees. Trees in this latter condition cannot lay up or provide for next year's crop to much advantage; flowers must of necessity be undersized and weakly. Coe's Golden Drop, one of the finest of autumn Plums, is at the end of September only available to a small extent, although several trees occupy spaces on west walls. Each tree, however, carries a fair quantity, so that the

supply will last well into October, if not until the end of the month. This Plum ought to find a place in every garden where wall space can be found, preferably on an east or west aspect. It possesses such fine substance that it does not soon decay after it has ripened like most summer Plums and Gages. Sometimes it can be saved until the middle of November when wrapped carefully in tissue paper and stored in a uniformly cool and dry place. I have not been successful in continuing even a small supply so late as that date, but probably this was from want of the ideal store in which to keep them. One thing is assured, that when such delicious Plums can be produced in November they are appreciated, because then fruit is limited in point of variety. Prince Englebert and Grand Duke, two black Plums, more suitable for cooking than dessert, are sure bearers and most useful. This year they each carried a full crop and continued a supply successively throughout the month of September. Coe's Late Red has a lighter crop than usual; Blue Impératrice bears a greater quantity. These latter sorts, though small, are most desirable for late autumn, coming into use, as they do, when main crops are over. Monarch, of which I have but one tree, is this year without a crop.

Few fruit growers will readily forget the bitterly cold and boisterous winds experienced in March, damaging, as they did, so much early fruit blossom. Some trees here being fully in bloom had a double thickness of fish-netting fixed over them for shelter, but at the time it did not appear probable even that they would derive any benefit because of the high and searching nature of the frosty winds. Many, if not the greater portion, of the early blossoms were undoubtedly destroyed; those opening later from the base of the spurs escaped in sufficient quantity to produce a crop. On some of these early trees the fruits are more undersized than usual, attributable no doubt to the loss of the strongest and best placed blossoms.

Aphides have given a deal of trouble, and would have been more so but for the early attack on them with an insecticide. Where they have been left unattended the trees and crops have suffered badly, and the ill-effects will be carried into next season. Crippled leaves and consequent exhaustion of the trees carry unpleasant anticipations of a more or less uncertain character. If a soaking of manure water or a dressing of artificial manure of some approved kind were given and well carried down to the roots by rain, much help would be afforded. Where aphides, too, are troublesome, a well-applied dressing of petroleum emulsion would not be without good results, as it would destroy many insects lurking about the trees and in crevices of the walls. In very bad cases it would be well to paint the trees—old ones in particular—with a mixture containing a strong insecticide, removing the surface-soil from the base of the wall, and replacing it with fresh from the open quarters and well away from fruit trees. There are great destroying powers in hot water as applied to insects on trees. Applied with the syringe as hot as the hand can bear it, many tender-coated insect pests can be destroyed, but this remedy is only admissible after or about the time of the leaf-fall in autumn. W. S.

Road Ashton, Wilts.

Keeping Walnuts.—At p. 272 "J. G. W." asks as to the best way of keeping Walnuts. After trying many methods, I cannot find one to equal keeping them in clean sand. I put the Walnuts into big flower-pots in layers, covering each layer

with clean coarse sand. I use silver sand, although any tough sand will do just as well. When finished, the pots are placed on a damp brick floor in the fruit room. Boxes or pans of any kind would do just as well, although I prefer earthenware vessels. When these are wanted for use I brush them with a stiff brush to remove the sand. In this way I have had Walnuts good up to March. I have adopted this plan during the last ten years. The best way I can keep Filberts or Cob Nuts is to put them into a dry box and place them without anything amongst them in the same position as the Walnuts.—DORSET.

Ripened wood.—I fully agree with "H. R." (p. 195) that we may have too well-ripened wood. I have seen young Vines fail badly because of the wood being so hard and dry owing to premature ripening, that the Vines, though strong, would not break, the crop being poor in consequence. Much depends also how near the rods are to the glass, and if at all close, far better shade slightly than lose the large leaves, which have so important a part to play in the swelling up of the buds. Three years ago I had two houses of young Vines. One lot was ripened off much earlier than the other, being needed for early forcing. The crop was very poor. The Vines allowed to make later growth and not stopped so hard were all I could wish. There is no gain in roasting the wood. The growth of the plant is checked. Over-ripened wood does not facilitate forcing. One cannot force soft wood, but there is the happy medium "H. R." so well describes.—W.

Ripening pot Vines.—I never had pot Vines looking so well as those which have been grown without bottom-heat and allowed to make a liberal top-growth. It will be well to now reduce the side growths and cut back hard to the first lateral growth. There can now be no question as to the ripeness of the wood. The Vines will now benefit by exposure, but it is well to see that the roots get ample supplies of moisture. I have not moved my Vines of late years, as often when placed in the open the winds twist the canes about and the roots suffer if the pots are exposed. The sashes on the pits are taken away and the rods syringed freely, and they ripen up grandly. When we get frost the leaves soon fall. Many pot Vines bleed badly when shifted, this showing the necessity of cutting back the canes to the desired length and shortening the laterals so that the cut portion is well healed over. I always get this work done by the end of August. It is an easy matter to ripen up the canes and prune close to the main stem a little later.—G. W. S.

Blackberries.—With reference to Mr. Crawford's note, I have experimented with various kinds of Blackberries for several years, the result being that the only one worth growing is the Parsley-leaved variety (*Rubus laciniatus*). Plants of this which have been in their present position for five years have borne a large crop every year after the first. This year they average 5 lbs. each. In the same row, planted alternately, I have Wilson Junior, not one of which has ripened a single fruit. The ground is sandy, very dry and poor, and fit for nothing else. Wet or dry, cold or hot, the fruit is always good and well ripened; it is the only crop which never fails. The fruits average from twice to three times the weight of the best samples of the wild variety. Blackberries would be a paying crop where nothing else would grow. It must be borne in mind that such crops as I get can only be obtained by manuring. In favourable situations I have seen this variety growing on a wall covered with a solid mass of fruit, the canes being quite 18 feet high. My experience only is on the poorest ground, where I never expected it to fruit at all.—THOS. FLETCHER, Grappenhall, Cheshire.

Value of early Peaches in the south of France.—A dozen of the principal producers, writes M. Nardy Père in *Le Jardin*, of the Hyères region gather each from 3000 to 6000 kilos of the fruit (3 to 6 tons). One estate, which is one of the best managed in Provence and is known as La Décapris at Hyères, belonging to

M. Raymond Aurrau, produces a crop of early American Peaches annually weighing between 50 and 60 tons. The last crop was much less; it only reached 10 tons of Amsden June and Alexander and 4 tons of Hale's Early. A quite abnormal occurrence of frost on March 25 and 26 destroyed three-fourths of the crop. In the same region of Hyères another estate known as the Oratoire, belonging to the Marquis de Laremy, and comprising alluvial lands in the very rich valley of the river Le Gapeau, competes with La Décapris in the quantity of early American Peaches grown and exported. The last crop at the Oratoire, which, happily, escaped the frost of March 25 and 26, amounted in Amsden June and Alexander to 35 tons, and in Hale's Early to 15 tons. We certainly do not exaggerate in calculating as 200, and possibly 250, tons the total quantity of early American Peaches put upon the railways of the last gathering.

Bees and fruit.—In *THE GARDEN* (p. 261) under the heading "Destroyers," Mr. E. Burrell makes the following, to me astounding, statement: "So far as the softer fruits are concerned, bees at this season of the year are quite as destructive as wasps." I have little doubt that on his attention being called to the matter he will admit that he has unwittingly exaggerated; but as one who for many years has taken an equal pleasure in bee-keeping and gardening, I am anxious to ascertain whether even a softer impeachment can be fairly made against my favourites. It is quite possible that bees deprived by a greedy or ignorant owner of the stores they had laid up for the winter may under the pressure attack fruit sufficiently sugary, such as Grapes, especially if there should be no neighbouring hive to rifle. I am not concerned to defend their morality. Personally, however, I have never once seen a bee attacking any fruit, and my gardener, just questioned, tells the same tale. It should not be forgotten that several British bees somewhat closely resemble the honey-bee, while "at this season of the year" an insect commonly known as the drone-fly is abroad in great numbers, and this is constantly mistaken for honey-bees, as in company with them it is seen sporting about the blossoms of Michaelmas Daisies and other autumnal plants. For this reason the evidence of those thoroughly familiar with hive bees would be most valuable, but I shall be grateful to your readers for any definite information, favourable or otherwise. Should their experience happen to be adverse, I beg that they will kindly mention whether they have often witnessed the offence or whether the instance quoted is exceptional.—H. J. O. WALKER, Lejford, Budleigh Salterton.

WET AUTUMNS AND POT STRAW-BERRIES.

GARDENERS who have to produce ripe Strawberries in February or March are often disappointed after a wet autumn by their first early batches of plants going blind or failing to throw up trusses of sufficient strength. In many gardens, however, this might to a great extent be prevented by a little timely precaution. For instance, where there is a range of cold pits or frames the plants might be placed in them, say at the end of August, the lights being tilted over them during wet weather and entirely removed when fine. Of course, care will be needed never to let the plants suffer from want of water, as they will dry more quickly than those in the open air. If the frames are not wanted for other things, the plants may remain in them until taken indoors in November. There is no need thus to treat the later batches, as these, having a longer season of rest, are better prepared for the work when time for forcing arrives. Varieties which naturally produce many crowns are not so well suited for forcing as those which as a rule produce but one or two, although Vicomtesse Héricart de Thury is an exception. Conspicuous amongst the first-named section are Royal Sovereign, La Grosse Sucrée, and the old Keens' Seed-

ling. Some gardeners make a practice of reducing the number of crowns to one on each plant when more are formed. It is well to bear in mind that the only guarantee for success in fruiting early Strawberries is layering early and giving the plants a position fully exposed to sun and air. Plants are sometimes stood by the sides of walks where pyramid Apple or Pear trees overshadow them, but in such a position they stand but a poor chance of early maturity. I knew one gardener—and it is a good plan where ground is plentiful—who always selected a plot from which Peas or Cauliflowers had been cleared, had it dusted with lime, and raked over. His pot Strawberries, as soon as severed from the parent plants, were set thereon four rows abreast, then a 2-feet alley. In due time every other plant was removed and more rows made. The position was one with a gentle slope to the south, where the plants reaped the benefit of every ray of sunshine. J. C.

Badly-shaped Apples.—Whatever may be the cropping qualities of an Apple, however fine it may look on the tree, and however attractive its general aspects, yet if it be of bad shape or entail much waste in the preparation for table, then is it less deserving of praise than are other varieties that are of better shape and more economical. I could but notice that the finer fruits of Bramley's Seedling shown at the Crystal Palace the more were they objectionable as cookers. That was also the opinion of one of our leading market growers. Another much-praised Apple which comes into the same category is Cox's Pomona. Both these have the stems deeply inserted in a large hollow cavity, and the eyes also are almost as deep.—A. D.

Plum Washington.—Many failures with this Plum are, I think, due to the trees having a too rich root-run. It is a strong grower, and if planted in a deep rich border is sure to disappoint, making rank growth year after year. It requires a poor soil, with abundance of old mortar rubble added, this being made firm, and a few slates or tiles placed beneath to keep strong roots from descending. Even then it may require root-pruning once or twice to induce fertility, but when once fruitful it is a grand Plum, delicious in tarts or made into jam, and when ripened on a west wall quite fit for dessert. Those whose locality permits of its being planted as a standard generally find that it takes some years for it to arrive at a profitable state.—NORWICH.

Stone fruits at the Crystal Palace.—Probably the display of stone fruits at the Crystal Palace during the recent fruit show was never equalled so late in the season. Peaches, Plums and Nectarines were a grand show indeed, the lateness of the season making it possible to show very many varieties that in ordinary years are over by the middle of September. It may be considered strange that this should be so, as we have had months of almost unbroken sunshine and great heat during the daytime, but this has not made up for the coldness and dulness experienced over nearly as long a period in the early summer. The competition in all the classes for stone fruits was very keen, and many grand dishes had to be passed by without recognition by the judges. The analysis of the exhibits will be interesting reading, and may stand unique for many years to come.—J. C. T.

Late Nectarines.—The number of late varieties of Nectarines is not anything in like proportion to that of Peaches, still there are a few varieties which lengthen the supply, and these should be grown wherever this delicious fruit is esteemed. Taking them in their order of ripening, Spenser is a fine highly-coloured kind, being, when ripened under favourable conditions, of a beautiful mahogany colour. The flavour is rich and luscious, and the tree bears well. It is a great favourite with exhibitors. Another deliciously flavoured late Nectarine is Victoria, but this variety requires careful cultivation, as the fruit is liable to crack. A good light position and a

warm, well-drained border are the conditions necessary to ensure success. It is advisable to give these the protection of a cool house, although in the warmer counties the two first-named may ripen on an open wall.—J. C., *Norwich*.

PEAR BEURRE CLAIRGEAU.

THIS Pear is not nearly so much grown as it deserves to be. It is a special market favourite, a large, handsome fruit, and it rarely fails to crop; indeed, grown in bush form on the Quince stock it is very fine. On the Pear, in standard form, it gives a smaller return, but always saleable. This is a second-rate fruit as regards quality, but if gathered before it is quite ripe it is equal to some of less size and given a better name for quality alone. It comes in during October—and should not be stored, but gathered and disposed of. It is finely

how short a time it takes the Duke to ripen after the berries commence to soften.—J. C.

Peach Bellegarde.—In his notes on Princess of Wales Peach, "H" (p. 255) alludes to that excellent late variety Bellegarde as being a pale-coloured Peach, the fact being that it is one of the darkest Peaches in existence when grown well exposed to the light. "H" must either be growing another variety under this name or the conditions are unfavourable for colouring. Bellegarde was shown by many exhibitors at the fruit show recently held at the Crystal Palace, and in nearly every case the colour was quite dark. Bellegarde, as generally grown, is identical with the French Galande, and there is, or was, I believe, some years ago, a variety grown in France under the name of Bellegarde that was worthless in this country. This may possibly be the Peach grown by "H," though it is not very likely, as it was so little cared about when tried that it is not now catalogued by any of our fruit nurserymen. The true Bellegarde, as grown by me, takes on a deep



Pear Beurre Clairgeau.

coloured, and is not a coarse grower. It does well in light soils.

Grape Duke of Buccleuch.—I was very pleased to see from "E. M.'s" note (p. 234) that the Duke of Buccleuch Grapes at Gunton were fine again this year. Several years ago I saw the splendid bunches that were exhibited by Mr. Allan in competition for the prizes offered at Manchester by the late Mr. William Thomson, and could not help thinking what a pity it was this fine Grape could not be as well grown in every garden. The Vine at Gunton is not on its own roots, being worked, I think, on Alnwick Seedling. I have found Golden Queen an excellent stock for the Duke. When at Coddington Hall I put a bottle graft on to Golden Queen, the result being that the young rod grew strongly, but not grossly, as it so often does when on its own roots, and produced bunches freely, these being of good, not sensational, size, the berries also colouring well and being quite free from the well known and ruinous spot. It is wonderful

crimson-purple hue near the apex or on the exposed side, and is highly coloured almost all over except where it hugs the wall or is shaded in any way. It is certainly a grand late Peach, of hardy constitution, and a good grower. To dub it a pale variety is to rob it of one of its great attractions.—J. C. T.

Leaf-curl in Peaches.—There was nothing, says P. C. Reynolds in the *Country Gentleman*, in the climatic condition of last winter to discourage Peach growers; the winter was unusually mild. Only on one or two nights in the early part of February did the mercury fall below zero, and then only about 2°, and every Peach grower was satisfied when winter departed that the fruit-buds were alive and sound. The fruit-buds were indeed all right, and gave promise of a large yield of fruit; but when the leaf-buds began to unfold in early May the temperature ruled low and the growth of the young leaves was slow. Whether that was the cause of what followed, or whether there were other causes, is unknown; but in the latter part of May the Peach leaf-curl fungus

(*Taphrina deformans*) began to develop, and soon covered most of the foliage. Some varieties were affected much worse than others. The early varieties, such as Alexander, Amsden, and Waterloo, almost entirely escaped and bore good crops, but those varieties are not largely grown for market because of their tendency to rot, and also because they are partially clingstones. The Early Rivers, the best and most extensively grown of early varieties, was badly affected with the fungus. Mountain Rose was somewhat affected, but not badly. Among other varieties planted to some extent in this vicinity, Foster, Elberta, Crosby, Crawford's Late, Hill's Chili, Oldmixon Free, and Stump the World were badly affected. Generally nearly all the leaves were more or less covered with the fungus, causing them to thicken, curl, and change colour to a whitish green, and soon wither and drop from the trees. The young fruit, no longer having the leaves to prepare their food, also dropped. Dormant leaf-buds soon began to swell and unfold, and the trees were again clothed in green foliage. But there were no dormant fruit-buds to push forth, and the trees remained fruitless. Of all the varieties of Peaches grown in Monroe County, New York, Crawford's Early was most exempt from the fatal malady, and that is the great market Peach of a good portion of Western New York.

PLANTING FRUIT TREES FOR PROFIT.

THE present-day planter of fruit trees for profit has far greater advantages, so far as varieties are concerned, than those who planted thirty years ago. The prolific character of many of the newer sorts of Apples and Plums enables the grower to realise heavier profits than were possible previous to their introduction to the public, to say nothing of the much shorter time in which many of them arrive at maturity. Those who contemplate forming new plantations for profit should be careful to make the best selection. Taking Plums first, a few sorts, such as Victoria, Pond's Seedling, and White Magnum Bonum, are equal to any of the more recently introduced varieties, but Magnum Bonum in standard form is only fit for the warmer counties. Black Diamond, though a fine Plum and pretty certain on a wall, is often disappointing as a standard, and though many plant it, it is only to find that after fickle springs the tree is minus fruit owing to the tenderness of the bloom. Rivers' Early Prolific is still indispensable for market, as it invariably carries a crop, and being when well ripened fit for dessert, always sells well. To follow it, Early Violet, a Plum comparatively little known out of the midlands, should be planted in quantity. In size and general appearance it much resembles Early Rivers, carrying a dense bloom and being delicious for tarts or for jam. Judging from the quantities of this Plum offered for sale in Norwich last August, I imagine that trees had been pretty freely planted in East Anglia. It is a prodigious cropper. Sultan, a large deep red Plum, something after the style of Prince of Wales, ripening at the end of August, is a first-rate market variety, a heavy and regular cropper, and of excellent flavour when cooked. Denniston's Superb, though small, must be included in the list, as quite small trees crop heavily and the flavour is equal to any of the Gages. It will hang a good while on the trees when ripe; colour greenish yellow. One of the best additions to market Plums is The Czar. I saw it fruiting well in a Norfolk orchard on quite young trees, the fruit hanging in clusters and standing wet weather without cracking. Pershore Yellow Egg, a medium-sized golden Plum grown by the acre in Worcestershire, is indispensable. It is an enormous cropper and of such fine colour for jam-making, that I am told large quantities of jam made of this Plum are sold for Apricot, a small percentage of Apricot being added. I think all market growers should plant a small breadth of Wyedale. It will hang till November, and is then splendid for tarts or stewing. It is extremely hardy and a sure cropper.

As to Apples, unless a very speedy disposal can be effected, I think it is folly to plant many of the soft-fleshed early dessert kinds. The white Juneating, ripening at the end of July and keeping fairly well, is the best of this section. Of juicy and refreshing flavour and a certain bearer it always sells readily. The showy Lady Sudeley follows, and for gathering at the end of September that sweetest of all autumn Apples, Yellow Ingestre, is useful. It is conical in shape, of a brilliant golden colour, bears regularly and profusely, and keeps soundly for some time. For later use, where the soil is warm and the position sheltered, Cox's Orange Pippin and King of the Pippins may be depended on, but where the conditions are the reverse, Golden Spire and Ross Nonpareil, a very hardy, capital eating Apple, may be substituted with Sturmer Pippin for spring sale. The remarks as to the folly of planting too many soft-fleshed early dessert kinds are equally applicable to cooking Apples. My choice would be Lord Grosvenor, as succeeding where Lord Suffield fails. This last fine pale amber-coloured Apple was, I believe, sent out by a Norwich firm, which would account for its being so extensively planted in Norfolk. Duchess of Oldenburg and Pott's Seedling are useful for early sale. I am aware the Duchess is easily bruised, but its brilliant handsome appearance always takes in the market if a little extra care is taken in the packing. New Hawthornden is a grand Apple and an early bearer. Lady Henniker, hardy and free, is excellent either for cooking or for dessert. Bismarck is a grand addition to market Apples, young trees bearing well, the fruit having size, colour, and flavour to recommend it. Lane's Prince Albert, too well known to need describing, is A 1 in every respect. Alfriston is a fine late-keeping excellent cooking Apple, and so is Normanton Wonder. Blenheim Orange is too long in coming into bearing for the ordinary market grower. The same may be said of Warner's King and Bramley's Seedling. The last fruits earlier when growing in a strong retentive loam. J. CRAWFORD.

EARLY-FORCED FIGS.

THE Fig is perhaps the most easily grown of all our indoor fruits, and yet how seldom do we see good early crops. This is undoubtedly accounted for by the sensitiveness of its roots to chills or anything approaching sourness in the border. The Fig, if grown in a badly-drained soil, casts its fruits; therefore, anyone embarking on Fig culture should provide thorough drainage for the plants in either pots or borders. For early work pot plants are decidedly preferable to those planted out unless the border can be artificially heated, and, unfortunately, this condition is rarely obtainable. To start, the pots, or tubs as the case may be, should be placed in a bottom-heat of 60°, and the balls of soil kept moistened with water 5° warmer than the temperature of the roots. If need be, stimulants may be used, for Figs are gross feeders, and any assistance in this way will be compensated by the crop. As the season advances, the temperature of the bed and the water employed may be raised to 65° or 70°. The warmth of the house throughout the growing period should be, if anything, below that of the roots. Checks to growth should also be strictly guarded against, for it will be found that a sudden chill is almost as detrimental to a crop as a chill is to the plant's roots.

By carefully carrying out these items in connection with the cultivation of early crops of Figs, there will be little left to be desired in the yield. On the other hand, if only one soaking with cold water be given the roots, the majority of the fruits will drop. With pot or tub culture of Figs, it is never wise to keep old plants, for these gross feeders soon exhaust the limited quantity of soil at their command

of food materials, and the fruits, though plentiful, are so small that they can only be regarded as mere apologies for what they should be. Therefore, in order to maintain a supply of vigorous plants, a few should be propagated annually. With a command of bottom-heat, warm water, and given liberal treatment, cuttings put in in the early months of the year will yield a nice crop of exceptionally fine fruits the following autumn. In one season, too, fairly good-sized plants can be produced for early forcing the following year by attending to stopping and removing all suckers whenever seen.

Figs planted out are more difficult to deal with for early work, as their roots are not generally so well within the command of the grower as are those of pot plants. Nevertheless, much can be done to improve adverse conditions where they exist. In earlier days the requirements of the Fig seem to have been better understood than they are at present, for nearly every house under the old school of management exhibits unmistakable signs of a thorough knowledge of essential root conditions to successful Fig culture. The borders, or rather beds, are raised from 1 foot to 2 feet above the level of the floor, and the staple of which they consist is well mixed with old lime screenings and small pieces of charcoal and broken bricks. Being thus raised the beds attain a temperature similar to that of the atmosphere of the house, and the lime screenings, charcoal and brickbats keep the whole porous and sweet. With trees in borders of this kind and under gentle forcing, and the use of water 10° above the temperature of the house, there is every likelihood of heavy early crops being the result. Alter these conditions to some of our more modern systems, i.e., to level borders, less opening constituents in them, and a disregard of the temperature of the water employed, and what follows? For late supplies, plants grown under these unfavourable conditions may struggle on and yield a moderate crop, as the warmth of the summer's sun will make itself felt in soil and water alike, but early crops from such will be next to impossible. Knowing these facts, we should aim at securing a well-drained, aired and warm medium for the roots of our early forced Figs, and avoid extremes of temperature in the atmosphere of the house. J. RIDDELL.

Stewed Pears.—A friend of mine having more fruit on a tree of Doyenné du Comice than he thought ought to remain, removed some, and instead of throwing them away had them stewed, and was surprised at the delicious flavour. "It was finer," he said, "than that of any other stewed Pears he had ever tasted." Two other gardeners who tasted them expressed the same opinion. Of course, Pears should be sufficiently thinned out at an earlier stage of growth, but it sometimes happens that gardeners who want fine fruit find it advisable to ease the tree even when the fruit has grown to a good size, and any so doing in the case of Doyenné du Comice might put them to the same use instead of throwing them away. The best way to stew the fruits is, after slicing them, to put them into a syrup in a jar, covering this down, and placing in a fairly hot oven so as to stew slowly. In order that the desirable rich brown colour should be secured, the jar should not be uncovered more than once during stewing.—J. C.

Failure with Raspberries.—I have four rows, each about 30 feet long. The plants are trained to wires. The canes often grow from 8 feet to 10 feet high and are thick in proportion. In the autumn they look most promising and break well, but just after the blooming period they turn yellow and the fruit fails to swell. Nor can

this arise from pruning, as the canes have been left the entire length by bending them over arch fashion when tying them in winter. At other times they have been cut back to about 6 feet high. Summer thinning has been tried, only leaving enough to fill the space, and this, too, early in the season. During the last ten years I have had them replanted three times, and each time in a fresh position. Nor do varieties seem to improve matters, as I have tried four of the best

from the canes not ripening, but this I can hardly think is the cause.—DORSET.

TREES AND SHRUBS.

BENTHAMIA FRAGIFERA.

MANY fine specimens of this handsome plant are to be found in the gardens of South Devon

frost of 1895 temporarily ruined a fine tree in this immediate neighbourhood, which, however, broke into growth again shortly before midsummer, and now appears none the worse for its harsh experience. A sheltered position is to be recommended for the subject of this note, as it rarely forms a symmetrical tree where exposed to the action of rough winds. It is, perhaps, when situated on the



Benthamia fragifera. Raised from seed in the garden of Mr. R. Kelly, Kelly, Lifton, Devon.

and most reliable kinds. The soil is loam, resting on stone. For several years I tried manuring in winter, mulching in summer, and now the last two years I have not given them any at all. I never dig among them, all I do being to simply lightly fork over the surface, removing any surface suckers. The situation is low and damp. It has been suggested to me that the failure may arise

and Cornwall, while it also flourishes in the genial climate of the Channel Islands, and as far east as Hampshire it has attained a large size. Although not particularly tender, having been known to withstand 25° of frost with impunity, it is occasionally badly crippled by a long spell of severe weather. The prolonged

gentle slope of a fairly open grassy glade and backed by tall trees that the beauty of the *Benthamia* is best realised. In such a situation well-furnished specimens present a charming picture when in full bloom, every shoot laden with large widely-spread blossoms of greenish yellow, thrown into high relief by the darker

background. In the autumn a second season of beauty ensues when the fruits assume that crimson colouring which has given the *Benthamia* its English name of Strawberry Tree. Occasionally specimens are to be found grown in the form of standards with trunks bare to the height of 8 feet or so, but this conformation lacks the grace of the more naturally grown tree and has little to recommend it. I remember some years ago seeing a handsome specimen in the grounds at Fota, Co. Cork, and, earlier still, a large number of exceptionally fine trees at Heligan, St. Austell, Cornwall, some of which, so far as my recollection serves me, must have been 40 feet or more in height. I understood at the time that the *Benthamias* at Heligan were the produce of the first seeds imported into England from Nepal some seventy years ago. It would be interesting to know particulars of the height of these trees at the present time. The Strawberry Tree is easily raised from seed if the fruits, some of which when fully ripe exceed an inch in diameter, be gathered before they are exposed to sharp frosts.—S. W. F., *Torquay*.

Mr. Kelly, Kelly, Lifton, Devon, in whose garden the plant figured is growing, in writing to us says:—

The *Benthamia* is 19 feet wide, 14 feet high, and is growing in front of a Fir plantation with a southern aspect. It was raised from seed sown twenty-four years ago.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 11.

BEYOND any question no better display has ever been brought together in October than that of Tuesday last. In many ways it was a most remarkable one both in variety and general excellence, each committee having before it some high-class productions. That of the fruit committee consisted largely of Apples and Pears, and when it is stated that the Maidstone firm (Messrs. Bunyard) exhibited, no further remarks are needed here as regards the excellence of the produce shown. Another splendid exhibit of Pears came from Mr. Martin Smith, fully demonstrating what may be successfully accomplished under orchard-house culture as well as outside. The floral committee had before it a few high-class groups, but not many novelties. A few fine foliaged plants, however, deservedly received first-class certificates. A grand group of Pitcher Plants from Syon Gardens occupied with distinct effect the central part of the hall. These were suitably arranged with other fine-foliaged plants of neutral colours. On another table was a most charming group of *Begonia Gloire de Lorraine* from Mr. H. B. May. These were most tastefully disposed. Roses came in profusion from both Waltham Cross and Cheshunt. Both of these exhibits included the latest of the late-flowering Teas, &c., from outside, and in addition pot Roses from inside—admirable decorative plants. A most seasonable group of Michaelmas Daisies was staged by the Messrs. Veitch; these were lifted plants in pots; thus the height and character of each plant could at once be seen. Dahlias still linger and a few good blooms were staged, one award of merit, to the surprise of many, being made. Another and a most remarkable exhibit was the hybrid *Rhododendrons* (javanico-jasminiflorum section), of which plants bearing fine trusses were staged in quantity. Herbaceous *Lobelias* from Burford Lodge, Dorking, were thoroughly representative. Orchids were not numerous as regards groups, the largest being of *Dendrobium formosum giganteum* from Gunnersbury House; another of mixed kinds from Enfield, and a pleasing exhibit of *Masdevallia tovarensis* from Cheshunt.

A grand plant of *Vanda Sanderiana* came from the Dulcote collection bearing several spikes of fine flowers. A few superb hybrids were also shown, and a small group from Burford Lodge of rare things was noted. The attendance was fairly good, but the light was sadly deficient. The interior decoration of the hall is not of itself of any assistance in this respect, but rather the reverse, whilst it is sadly in need of a thorough cleaning, the roof in particular, which keeps out practically as much light as it admits.

Orchid Committee.

A first-class certificate was awarded to—

LÆLIO-CATTLEYA DOMINIANA LANGLEYENSIS.—This was raised by Mr. Seden, and is the result of crossing *Lælia purpurata* and *Cattleya Dowiana*. The sepals are pale rose, mottled with white, the petals of fine form and substance, pale rose, suffused with a darker shade; the broad, finely-shaped lip deep crimson-purple with a darker shade of crimson in the centre, beautifully corrugated and margined with rose; the side lobes crimson, suffused with brown and lined with yellow through the base of the throat. The plant carried a raceme of three flowers. It is one of the grandest hybrids we have seen. From Messrs. J. Veitch and Sons.

Awards of merit were adjudged to the following:—

SOPHRO-CATTLEYA CLEOPATRA (*Sophranitis grandiflora* × *C. guttata* Leopoldi).—An interesting and distinct hybrid, which has flowered in four years from the time of sowing the seed. The flowers have the intermediate characters of both parents, the sepals and petals being of a distinct orange-scarlet, the lip of a brighter hue, with a suffusion of purple and some yellow at the base; the side lobes rose-purple, shading to yellow. The cut raceme carried three flowers. From Messrs. J. Charlesworth and Co., Heaton, Bradford.

LÆLIO-CATTLEYA HENRY GREENWOOD (*L.-C. Schilleriana* × *C. Hardyana*).—In this the sepals are greenish white, slightly suffused with rose, the petals pale lilac, veined and suffused with a darker shade of colour, the whole of the front lobe of the lip rich velvety crimson, the side lobes rose, shading to bright yellow, with some purple at the base. The plant bore two handsome flowers. From Messrs. B. S. Williams and Son.

DENDROBIUM RHODOSTOMA (*D. Huttoni* × *D. sanguinolentum*).—This hybrid was raised some years ago, but has not previously been certificated. The flowers are produced in clusters at intervals along the bulbs. The sepals and petals are white, heavily tipped with deep crimson. The front lobe has a large blotch of deep crimson, the other portion white, spotted with purple, and having some yellow at the base. From Messrs. J. Veitch and Sons.

Messrs. Hugh Low and Co., Bush Hill, Enfield, sent a small but choice group, amongst which was a dark form of *Cymbidium Traceyanum*. This carried a raceme of nine flowers. A fine plant of *Cattleya superba* with two spikes of flower, a dark form of *C. Bowringiana*, *Vanda cœrulea*, a grand form; *Vanda Kimballiana*, *Oncidium ornithorrhynchum album* with four spikes of flower, and *Oncidium cariniferum*, with brown and yellow sepals and petals, and white shading to rose lip, were also included. A good form of *Cypripedium eurycandrum*, *C. orphanum*, *C. Sallieri* Hyeaunum, and numerous other forms were well represented. *Dendrobium Lowi* with four flowers was very attractive. A silver Banksian medal was awarded. Messrs. F. Sander and Co., St. Albans, sent *Dendrobium puniceum*, a small species carrying its flowers in clusters, the colour pale rose and white; a grand form of *Cattleya Mantini* with four flowers, *Miltonia vexillaria* Leopoldi with two spikes of flower, and a finely-flowered plant of *Stenoglottis longifolia*. Messrs. Paul and Son, Cheshunt, were awarded a silver Banksian medal for a remarkably clean and finely-flowered group of *Masdevallia tovarensis* and *Cypripedium Spicerianum*. Messrs. J. Veitch and Sons sent two fine plants of *Lælio-Cattleya callistoglossa*

(*Lælia purpurata* × *Cattleya Warscewiczii*), the sepals pale rose, with vivid crimson-purple labelum except the rose on the margin and yellow in the base of the throat; *Lælio-Cattleya Nysa* with three flowers, and a large-flowered variety of *Lælia splendens* (certificated last meeting). The grandest display and the most attractive group in the show was the *Dendrobium formosum giganteum* from Messrs. Rothschild, Gunnersbury House. This consisted of thirty-four plants with a total of 675 flowers and buds. We counted sixty-four flowers on one of the plants. In one cluster there were ten blossoms. On some of the baskets seedlings had made their appearance, two and three bulbs being the result of as many years' growth, each bulb making a wonderful improvement on its predecessor. *Odontoglossum grande* and *Vanda Kimballiana* were also well represented. Mr. Hudson is to be congratulated on the wonderful success he has achieved in the cultivation of this somewhat difficult species. A silver-gilt Flora medal was awarded. Sir T. Lawrence sent a small group consisting of varieties of *Cypripedium Lawrebel*, a finely-flowered plant of *C. regale*, a light form of *Lælia pumila* and a dark form of the true *L. præstans*. *Cattleya St. Benoit* (*C. Schröderæ* × *C. Aclandiae*) is very much in the way of *C. Duke of York* and others, the sepals and petals deep rose, the lip rich velvety crimson in the front lobes, the side lobes crimson in front, shading to rose, and white at the base. Two cut spikes of *Lælio-Cattleya exoniensis*, the vivid scarlet *Habenaria militaris*, and *Epidendrum porphyreum*, a distinct variety with large orange sepals, small yellow petals and yellow lip, and a grand variety of *Dendrobium Phalaenopsis hololeucum* with eight of its pure white flowers were also included. Mr. E. Miller Munday, Shipley Hall, Derby, sent a finely-grown plant of *Angræcum ichneumonæum* with nine spikes of its small white flowers; Mr. B. B. Baker sent a finely-flowered plant of *Odontoglossum grande* having twenty-five expanded flowers; Mr. W. Cobb, Dulcote, Tunbridge Wells, showed a fine plant of *Vanda Sanderiana* with five spikes of its remarkable rose and brown flowers, a good plant of *Cypripedium Lawrebel* and *C. Percival Cobb*, in the way of *C. Hyeaunum*. Mr. W. A. Bilney, Weybridge, had two finely-flowered plants of *Lælia pumila*; and Mr. R. B. White sent a *Cypripedium bellatulum* hybrid, in the way of Charles Richman, the flower much deformed.

Floral Committee.

The following received first-class certificates:—

LINOSPADIX PETRICKIANA.—A beautiful and graceful Palm from New Guinea, resembling in growth some species of *Geonoma*, but generally more sturdy-looking. It is of dwarf habit, the pinnate fronds gracefully arched, and in a young state assuming a light bronzy hue, a characteristic more or less of the species from this part of the globe. Two beautiful plants were shown. From Messrs. F. Sander and Co., St. Albans.

ALOCASIA SPECTABILIS.—A very striking and handsome kind, the leaves each about 18 inches long and 9 inches broad, the rachis pale green, the veins also somewhat raised, the whole surface having a silvery appearance. From Messrs. Jas. Veitch and Sons, Chelsea.

The following received awards of merit:—

CHRYSANTHEMUM JULES MARQ.—A decorative kind of a very desirable shade of brownish crimson, the flowers of medium size and inclined to semi-reflexed form. From Mr. Wells, Earlswood, Redhill.

DAHLIA EBONY (Cactus).—A flower of medium size and of a rich crimson-maroon shade, very dark in the centre. From Mr. Mortimer, Farnham, Surrey.

DRACENA ECKHAUTI.—This is one of the green-leaved type, and, judging by appearance, should prove a useful hardy kind. The plant shown was 3 feet high, the leaves scarcely so broad as in *D. terminalis* or *congesta* forms, decidedly more graceful and drooping, and more closely arranged on the stem. The foliage, too, is exceptionally dark in colour. Smaller examples would make

good table plants. From Messrs. Jas. Veitch and Sons, Chelsea.

Of Pitcher Plants, Mr. Geo. Wythes, The Gardens, Syon House, Brentford, staged a handsome group. This was, perhaps, the largest and most complete collection both of species and hybrids ever brought to the Drill Hall, several of the kinds being very rare. In all there were some thirty species and hybrid varieties of these highly interesting plants. *Nepenthes gracilis* major, a small-pitched kind, appears insignificant against such handsome sorts as *Dicksoniana*, which has very handsome cups, chequered crimson. *N. Courti* has medium-sized pitchers, narrow and freely checked with green; *Intermedia* is a vigorous sort, the pitchers finely hooded and marked with crimson and green; *Mastersiana* has a nearly self-coloured pitcher of a crimson-brown hue, long and very handsome; *Morgania* is a smaller kind, of a chestnut-brown hue, while the well-known *Rafflesiana*, with its 2 feet or more of attenuated midrib, is ever a conspicuous kind. Several fine plants of *N. mixta*, each with grand pitchers, were very noticeable, the apex in this being beautifully recurved and lined or ribbed, the glossy crimson hue over all lending a charm almost unique. *N. Hookeriana* is of more globular form, and the singular green of *N. phyllanthophora* appears in striking contrast to the handsomely-shaped cups of *N. Amesiana*, a bold and prepossessing form, darkly spotted, while *N. Chelsoni*, in the same way, is pale green, with light crimson spots and markings. *N. sanguinea*, one of the rarest of the old kinds, had three grand pitchers. Other good kinds are *Veitchi*, *Wittei*, *Hookeriana elongata*, *Curtisi superba*, *hirsuta glabrescens*, pale green; *lavis*, also green; *Wrigleyana*, medium, but very profuse; *cyllindrica* and *formosa*, with large showy pitchers on long pendants. The plants were tastefully arranged, and in a manner that displayed the characteristics of the abundant pitchers to advantage, a few large *Cocos plumosa* in the centre, with *Eulalia*, *Arecas*, *Adiantum Farleyense*, and other Ferns forming a pleasing groundwork. Some plants of *Pinguicula caudata* in pans, the pretty New Holland Pitcher (*Cephalotus follicularis*) also in pans, *Sarracenia purpurea*, and *S. Chelsoni* rendered the group as a whole more replete. A silver-gilt Flora medal was awarded. Another very charming group that also displayed high cultural skill as well as good taste in arranging was that from Mr. H. B. May, Edmonton, composed mainly of *Begonia Gloire de Lorraine*, the plants splendidly grown and covered with blossoms in the most perfect manner. Very remarkable, too, was the size of plant compared with that of the pot, the latter generally about 5 inches across. The plants were the most perfectly grown examples we have seen, and were raised amid a series of pleasing and beautiful Ferns that favoured a sort of transparent view of the whole, the finely-developed fronds of *Adiantum Farleyense* being seen to advantage. These, with a few *Pterises*, some small *Eulalias*, *Bouvardias* and *Solanums*, the last well berried and finely coloured, completed a very interesting group (silver-gilt Flora medal). From Chelsea Messrs. Jas. Veitch and Sons brought a nice lot of the javanic-jasminiflorum hybrids of *Rhododendrons* in much variety, the whole arranged in a bed of Maiden-hair Fern—*Hercules*, orange; *Carminatum*; *Monarch*, orange; *Apollon*, orange-bronze; *Primrose*, pleasing yellow; *Ajax*, cerise-salmon; *Ruby*, dark wine colour; *Maiden's Blush*, and *Souv. de H. Mangles*, deep salmon with orange, being the best (silver Banksian medal). Sir Trevor Lawrence, Burford Lodge, Dorking (gardener, Mr. Bain), brought a few choice hybrid *Pentstemons*, the spikes, as also the flowers, in fine condition for so late in the season. Very fine, too, were the hardy *Lobelias* from the same source. *Carmine Gem* is a most conspicuous kind; the old Queen Victoria and Prince Arthur, of a similar though brighter shade of vermilion, are excellent, though perhaps too near alike in colour for planting in close proximity. *Crim-*

son Gem is a very dark ruby-crimson. A fine lot of trusses of *Verbena Ellen Willmott* showed this to be a fine kind for the flower garden. A fine assortment of *Michaelmas Daisies* in pots from Messrs. James Veitch and Sons was arranged in a half-circular group near the entrance, and from many points of view may be regarded as excellent. The varieties were both numerous and good as well as representative. Among the most effective were *A. turbinellus*, a very elegant kind, with solitary flower-heads on long slender stalks; *A. diffusus horizontalis*; *Mrs. W. Peters*, white; *Novi-Belgii densus*; *A. cordifolius*, very pretty; *Coombeishacre*, fine bushes, 3 feet through; the pretty *ericoides*; *A. dumosus* and *A. Arcturus*, with violet blossoms and dark stems; *Top Sawyer*, a showy kind; *cordifolius major*, a pretty mass of flowers; *acris*, starry blue flowers, and the several varieties of *Novæ-Angliæ*, which are among the showiest of all. *Stokesia cyanea* in flower was also included in this group, and several forms of *Torch Lilies* that materially enlivened the group as a whole (silver Flora medal). Messrs. F. Sander and Co., St. Albans, had a nice group of *Acalypha hispida*, *A. Godseffiana*, *Dracena Sanderiana* and other things. Flower-heads of that very scarce and striking plant, *Trichinium Manglesi*, were sent from the Botanic Gardens, Glasnevin, and are ever admired for their beauty. Mr. T. S. Ware, Tottenham, had a mixed arrangement of single *Dahlias*, particularly good, seeing the very severe frost experienced in so many localities, but which has not in any degree disfigured these, the flowers being as fresh and bright as ever. A selection of *Michaelmas Daisies* included *Archer-Hind*; *A. cordifolius elegans*, *A. Amellus elegans*, *A. A. bessarabicus*, *A. A. b. densus*, &c. *Lilium neilgherrense*, several *Tritomas*, notably *T. Macowani* and *Solfaterre*; *Stokesia cyanea*, *Eryngium Oliverianum*, and a few *Bambos* and grasses were also shown. Hybrid *Pentstemons* from Messrs. Veitch and Sons, together with a grand lot of spikes of *Physalis Franchetti*, the monster richly-coloured calyces, averaging eight to ten on a spike, being very showy.

Roses for the season of the year were good, Messrs. Wm. Paul and Son, Waltham Cross, having a fine lot of pot plants, mostly *Teas*, and of these suitable sorts for winter flowering, the more beautiful are *Grace Darling*, *Niphetos*, *Bridesmaid*, *Catherine Mermet*, *Mrs. F. Bennett* (rose-crimson), *Mme. Hoste*, *Souvenir d'un Ami*, *Jean Ducher*, *Queen Olga of Greece* (a lovely salmon shade), *The Queen*, *The Bride*, *Mme. Cusin*, &c. There was also a fine assortment of cut blooms in variety, including *Caroline Testout*, *Ma Capucine*, *Mme. Rene Gerard* (an improvement in vigour on the last and in the same way of colour), *Maman Cochet*, and others (silver Flora medal). From Oxford, Mr. Geo. Prince brought a few exquisite *Roses*, particularly *The Bride*, *Maman Cochet*, *Souvenir de Mme. Perrier Guillot* (copper or orange-bronze) *Princesse de Sagan* (a fine crimson), *W. A. Richardson*, &c. Another set of *Roses*, mostly cut, came from Messrs. Paul and Son, Cheshunt. These were grouped in a free manner in baskets, and included such kinds as *Mme. de Watteville*, *Sunset*, *l'Idéal*, *Bridesmaid*, *Gustave Regis* (good yellow), *A. K. Williams*, *Mrs. J. Laing*, *Perle d'Or*, *Captain Christy*, *Alba rosea*, *Mme. P. Cochet* (rich orange), *Mme. Cochet*, *Perle des Jardins*, *Mme. Falcot*, and many others, thus showing the tendency of the season following the great heat and drought. Included in Messrs. Paul's group was *Desmodium penduliflorum*, a flowering climber of a pleasing character not often seen (silver Flora medal).

Fruit Committee.

There was a large number of interesting exhibits before this committee, including a splendid lot of fruit from Maidstone, Pears also from Kent, and a goodly number of new fruits, Melons being better than usual.

Awards of merit were given to the following:—

MELON WYTHES' SCARLET.—A medium-sized fruit, skin greenish yellow, densely netted, flesh

of great depth, scarlet. It is a cross between Syon House and Syon Perfection, and a particularly good flavoured fruit. From Mr. Wythes, Syon House, Brentford.

MELON GUNTON SCARLET.—A medium-sized Melon, of excellent quality, skin bright yellow, netted, flesh scarlet, of good depth. It is a cross between Gunton Orange and an old variety, is very sweet and a free cropper. From Mr. Allan, Gunton Park Gardens, Norwich.

PLUM PRIMATE.—A beautiful fruit, as large as Monarch, nearly round, with a lightish bloom, a dark red skin, and of excellent flavour. Though evidently a cooking fruit, it is at this season not out of place for dessert. From Messrs. Rivers and Son.

APPLE MRS. JOHN SEDEN.—A brightly coloured small fruit, a seedling from King of Pippins and the Transparent Crab. It has a brisk flavour, the flesh firm and the tree an enormous cropper. This will make a nice addition to the dessert Apples at this season. From Messrs. Veitch, Ltd., Chelsea.

APPLE INVINCIBLE.—One of the handsomest Apples the fruit committee have had before them. It is a very large cooking Apple, green on the shaded side and bronzy red where exposed, somewhat conical, with a deep eye, and in season from October to January. From Mr. D. Bodaly, Towcester.

Messrs. Bunyard and Co., Maidstone, sent 100 dishes of cooking Apples, doubtless the cream of those staged at the recent fruit show. It was a difficult matter to select any one variety, all being so good. The magnificent Peasgood's Nonsuch, though doubtless grown under glass, was most noticeable, this forming the centre of the collection. Royal Jubilee and Cornish Giant were extra fine and the colour of such kinds as Baumann's Red Reinette, Mère de Ménage, Emperor Alexander, Duchess of Oldenburg, The Queen, and Yorkshire Beauty was wonderful. Potts' Seedling, Lord Derby, Lord Grosvenor, Warner's King, Bow Hill Pippin, Newton Wonder, Belle de Pontoise, Foster's Seedling, Castle Major, Glamis Castle, Lane's Prince Albert, Mrs. Barron, and Farmer's Seedling were noted for their large size (silver-gilt Knightian medal). A fine collection of Pears for the season came from Mr. Blick, The Warren Gardens, Hayes, Kent. In this collection every dish was good, specially noteworthy being President Drouard, Souvenir de Congrès, Beurré Diel, B. Superfin, B. Bachelier, B. Bosc, and B. Rance. Doyné du Comice, Duchesse d'Angoulême, Marie Louise d'Uccle, Princess, Magnate, Winter Nelis, Emile d'Heyst, and several stewing varieties were also good (silver-gilt Knightian medal). A smaller collection of Apples and Pears, some eighty dishes in all, came from Mr. Rickwood, The Gardens, Fulwell Park, Twickenham. The fruits were a little smaller than those from Kent, but a nice lot. Duchesse d'Angoulême Pear was good, also such kinds as Beurré Superfin, Beurré d'Amanlis, Beurré de l'Assomption, Durondeau, Princess, and Easter Beurré. The best Apples were Alfriston, Ecklinville, Blenheim Orange, and Wellington, with good dishes of such dessert kinds as Ribston Pippin, Cox's Orange, Fearn's and Sturmer Pippins (silver Knightian medal). Messrs. Cannell and Sons, Swanley, staged a large number of Onions, Ailsa Craig being one of the best. The Lord Keeper, Cocoa-nut, Somerset Hero, Sandy Prize, Ringleader, Danver's Yellow, Masterpiece, and Rousham Park were also good (silver Knightian medal). Mr. W. R. Green, Wisbech, Lincoln, staged nearly forty dishes of Potatoes, nice clear tubers, and not too coarse. Snowdrop, The Bruce, The Saxon, Read's Giant, The Norwich, a nice tuber, Satisfaction, Duke of York, Magnum Bonum, and British Queen were very fine (silver Banksian medal). A very fine Peach, named Princess May, was sent by Mr. Sheppard, Maidstone. This was a seedling from the Victoria Nectarine. The fruits were large, of a pale colour, and of excellent quality, but too ripe. The committee wished to see it next season. Apple Bedfordshire Green-

ing came from Mr. Empson. A new seedling from Blenheim Orange was sent, but not of good quality: no card appeared on this exhibit and on several others also. A new Apple, Castle Favourite, from Messrs. McCreedy and Son, Portsdown, was much too ripe. Melons came from some half-dozen sources, one from Mr. Empson and another from Mr. List, Lydney Park Gardens, Gloucester, being much too ripe. Fruits of *Ficus repens* came from Mr. Williams, Whitbourne Hall Gardens, Worcester. A green-skinned Tomato, but lacking quality, called Greengage, came from Mr. White, Blythewood Gardens, Maidenhead. A dish of the new St. Joseph Strawberry and some leaves of Tomatoes from the secretary showed the formation of young plants on the old foliage in much the same way as is usual with Ferns.

NATIONAL CHRYSANTHEMUM SOCIETY.

OCTOBER 11, 12, AND 13.

THE exhibition which was held on the above dates at the Royal Aquarium, Westminster, far exceeded the expectations of most persons. The display on the present occasion was one of the very best ever held at this season, the whole of the ground floor being well filled, both tabling and floor space being insufficient to meet the demands of exhibitors, several very handsome exhibits being staged in one of the galleries. The show on the present occasion cannot be considered one of Chrysanthemums absolutely, as by far the greater space was occupied with exhibits of a miscellaneous character. Chrysanthemums certainly were well represented, the quality distinctly in advance of what was anticipated. Blooms almost equal to the standard obtained a month later were staged, the competition in the several classes being distinctly good.

CHRYSANTHEMUMS—OPEN CLASSES.

For a group of Chrysanthemums and fine-foliaged plants arranged for effect in a space covering 72 superficial feet, Mr. J. Spink, Summit Road, Walthamstow, was first, the plants carrying excellent flowers. These were charmingly disposed in the group, and mixed with a few good examples of *Cocos Weddelliana* and a fringe of other fine-foliaged plants, a very good effect was produced. The colours and form of the Chrysanthemums were wonderfully good. The second prize fell to Mr. W. Howe, gardener to Sir Henry Tate, Park Hill, Streatham Common, S.W., who had a most imposing display, the plants much taller. These were too tightly packed together, much of the beauty of the group thereby being lost. Fine-foliaged plants were freely used in this group. Cut flowers in the open classes were represented in capital form and colour. There were four competitors in the class for twenty-four Japanese, not less than eighteen varieties and not more than two blooms of a variety. Mr. James Brooks, gardener to Mr. W. Newman, Totteridge Park, Herts, was first, flowers of special merit being Mons. Gustave Henry, a fine October white; Sunstone, Oceana, wonderfully good this season; Mutual Friend, Mrs. G. W. Palmer, the crimson-bronze sport from Mrs. C. Harman-Payne; Ella Curtis, Phœbus, Emily Silsbury, a grand October white; and Mrs. C. Harman-Payne among others. Mr. H. Shoesmith, Claremont Nursery, Woking, was a capital second, his exhibit containing several flowers of very high quality, conspicuous among them being Mme. G. Bruant in grand form for this rather coarse flower; E. Molyneux, M. Gustave Henry, Werther in splendid condition, Red Warrior, Master H. Tucker, Pride of Madford, good in colour, and International. There were four competitors in the class for twelve Japanese, distinct, and the first prize exhibit probably contained the best blooms in the show. They were characterised by good form, bright and rich colours, also depth and substance. These came from Mr. John Fulford, gardener to Mr. F. D. Lambert, J.P., Moor Hall, Cookham, Berks, and were represented by Ella Curtis, Mons. G.

Biron, as fine in colour as we have seen; Mrs. J. Shrimpton, Oceana, Dorothy Seward, Elthorne Beauty, Reine d'Angleterre, Mr. F. Brewer, Mrs. J. Lewis, Iserith, Mons. Pankoucke, and a grand white seedling not unlike Lady Byron. To Mr. R. Jones, gardener to Mr. C. A. Smith Ryland, Burford Hill, Warwick, second prize was awarded, the best flowers being M. Gustave Henry, Mutual Friend, John Seward, G. C. Schwabe and George Seward. In the class for six blooms Japanese, distinct, six competitors entered, the quality being good throughout. Mr. James Brooks was first, having good blooms of Oceana, M. Gustave Henry and Pride of Madford. There were several competitors for six blooms Japanese, one variety only, white sorts predominating. Mr. R. Gladwell, gardener to Mr. Sydney Smith, Wernden Hall, South Norwood, S.E., was placed first with six fine examples of Mme. G. Bruant. Mr. J. Brooks followed with flowers of M. Gustave Henry. Incurred flowers at this show are generally weak. The first prize was won by Mr. Robert Bassil, gardener to Mr. D. H. Evans, Shooters Hill House, Pangbourne, his varieties being D. B. Crane, Baron Hirsch and Mons. R. Bahuant, all more or less rough. The same remark applies to the second prize stand, which came from Mr. T. Robinson, gardener to Mr. W. Lawrence, J.P., Elsfeld House, Hollingbourne, Kent. For twelve bunches pompons, a poor lot secured leading position, Mr. S. J. Cook, gardener to Mr. A. N. Stephens, Holmbush, Hendon, showing Black Douglas, Mme. E. Lefort and Piercy's Seedling in good form. For six bunches pompons, Mr. T. L. Turk, gardener to Mr. T. Borrey, Southwood House, Highgate, was first, especially noticeable being Mlle. Elise Dordan, Osiris, Vésuvé, Nellie Rainford, Veuve Cliquot and La Vogue.

In the amateur division for twelve Japanese blooms, distinct, Mr. Gladwell was awarded first prize for a bright lot of flowers. First prize was also secured by Mr. Gladwell for six Japanese blooms, distinct, second prize being awarded to Mr. W. Perrin, Sawbridgeworth. In the division for twelve bunches pompons, Miss Debenham secured leading honours, having Flora, Mme. Gabus, M. Herlaut, and Longfellow in pleasing condition. For twelve Japanese, not less than six varieties, first prize fell to Mr. W. G. P. Clark, Verulam Road, Hitchin, Herts, with a meritorious lot of flowers. A close second was found in Mr. H. Love, 1, Melville Terrace, Sandown, Isle of Wight, who had a pretty rose-tinted seedling from Mrs. H. Weeks in his stand of flowers.

DECORATIVE CLASSES.

For a table of bouquets, wreaths, sprays, button-holes, &c., illustrating the decorative value of the Chrysanthemum, only two exhibitors entered, the premier award falling to the lot of Miss Nellie Erlbach, assistant to Mr. J. R. Chard, The Florist, Stoke Newington, N., who had a very large though cumbersome arrangement. The best floral designs were a lovely anchor in yellow Chrysanthemums with a chain of Barberries, a white wreath, a lyre, and a pretty yellow-coloured bouquet. Mr. J. Emberson, Grove Road Nursery, Walthamstow, was second, the choice of colour in his designs considerably hampering him in the competition. A charming wreath on his table was deserving of special notice. The competition for three stands of Chrysanthemums suitable for table decoration was, as usual, very keen, six exhibitors with a 9-foot run of tabling making a delightful display. Mr. D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, again maintained his position with a lovely array of autumnal and other foliage in association with yellow, orange, and crimson Chrysanthemums. A few more bright yellow flowers only seemed wanting to make the blending of colours well balanced. Mr. W. Green, jun., The Florist, Harold Wood, Essex, was placed second with a charming arrangement of yellow flowers and bright green foliage, and the judicious use of highly-coloured Virginian Creeper as a contrast. For two vases of exhibition Japanese blooms, each

vase to contain twelve blooms, with the addition of suitable foliage, leading honours fell to Mr. W. Mease, gardener to Mr. A. Tate, Downside, Leatherhead, with a grand lot of flowers. The second prize was secured by Mr. James Brooks with a much lighter arrangement, but lacking quality in the flowers. A spirited competition ensued for a vase of pompon blooms arranged for effect with suitable foliage. In this class Mr. W. Green, jun., Harold Wood, was first, with a lightly arranged lot of flowers, but rather overdone with Asparagus foliage. In the amateurs' division for a single vase of Chrysanthemums for table decoration, Mr. D. B. Crane found most favour, his selection of mauve-pink and white Chrysanthemums looking somewhat dull under the brownish light of the Aquarium roof.

VEGETABLES.

The removal to the Royal Aquarium of Mr. Henry Deverill's Pedigree Onion and other choice vegetables' exhibition created considerable interest. For the best twelve Ailsa Craig or Cocoa-nut Onions, a grand lot secured for Mr. W. Fyfe, Lockinge Gardens, Wantage, first prize. These were large, well-ripened specimens, and according to the card scaled 30 lbs. A good second was found in Mr. John Masterton, Weston House Gardens, Shipston-on-Stour, who had very large roots, but not so well finished. For six Onions the same as those asked for in the leading class, Mr. Fyfe was again first, with large typical roots of Ailsa Craig, again followed by Mr. Masterton, with smaller and less pretty specimens. In the class for twelve best Onions selected from either Anglo-Spanish, Lord Keeper, Royal Jubilee, and Kousham Park Hero, Mr. Fyfe again maintained his position with handsome specimens of Lord Keeper, second prize going to Mr. T. Wilkins, The Gardens, Inwood House, Henstridge, with rather irregular specimens of Anglo-Spanish. For twelve Improved Wroton Onions, Mr. Wilkins was placed first, with nice, well-ripened and neatly-finished bulbs, Mr. W. F. Wyton, Crookhey Hall, Garstang, Lancs, securing second place with smaller roots. For six Oxonian Leeks, a magnificent and even lot from Mr. David Gilson, gardener to Mr. J. B. Johnstone, Coombe Cottage, Kingston-on-Thames, secured premier honours. To Mr. R. Lye, gardener to Mrs. Kingsmill, Sydmonston Court, Newbury, second prize was awarded. For twelve Exhibition Scarlet Intermediate Carrots there were no less than a dozen competitors, those from Mr. J. Masterton finding most favour with the judges, although they appeared to be a trifle coarse. Smaller specimens secured second prize for Mr. T. Wilkins. The competition was keen in the class for twelve specimens Middleton Park Favourite Beet. In this class Mr. E. Beckett, gardener to Lord Aldenham, Aldenham House, Elstree, Herts, was a good first with wonderfully even specimens, Mr. J. Bowerman, gardener to Mr. C. H. Hoare, Hackwood Park, Basingstoke, being second. Mr. Beckett was again first for six sticks Aylesbury Prize Red Celery, Mr. J. Bowerman being placed second. For twelve Improved Hollow Crown Parsnips Mr. Beckett again proved his superiority with long clean specimens, Mr. R. Lye following with shorter and less even specimens. Out of five competitors for twelve fruits Glenhurst Favourite Tomato Mr. Beckett was again first, second prize falling to the lot of Mr. T. Wilkins with much smaller, though pretty specimens. The competition for a collection of vegetables in eight distinct kinds was without doubt the most important of the series, and in this class there were no less than six entries. Mr. Beckett was first, and it is very doubtful if a finer lot of vegetables has ever been staged so early in the autumn. No fault could be found with a single dish. Mr. R. Lye followed closely, showing wonderfully well. For the twelve largest and hand-somest of any pedigree Onions there were thirteen competitors, first prize being taken by Mr. T. A. Beckett, Havering Park, Romford, with Ailsa Craig, closely followed by Mr. James Bell 80, High Street, Berkhamsted.

MISCELLANEOUS EXHIBITS.

Among these the place of honour must be given to the group of Chrysanthemums and fine-foliaged plants arranged by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, S.E., who secured the large gold medal of the society. The group measured 30 feet by 15 feet deep, and was backed by graceful Bamboos. The back of the group was arranged in three semi-circular banks, the front being finished off with a series of circular groups, in which highly-coloured Crotons and Palms were tastefully associated. A fringe of Ferns and *Isolepis gracilis* gave a pretty finish. The Chrysanthemums were mostly novelties and of considerable promise. Another leading feature of the exhibition was the superb collection of Michaelmas Daisies, arranged with great taste by Mr. Norman Davis, Framfield, Sussex, in the gallery. Rarely, if ever, has there been such a fine exhibit of these hardy flowers. Several handsome seedling flowers from *Aster Amellus* were in evidence. One particularly good one, flowering three weeks later than most of the type, is *A. Amellus Framfieldi*. A small gold medal awarded this collection was well merited. Mr. E. Beckett also staged a very fine representative lot of bunches, including several charming novelties, receiving a silver-gilt medal. Dahlias were staged by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, and given a silver-gilt medal. Mr. S. Mortimer, Swiss Nursery, Farnham, Surrey, also had an immense array of Cactus, show and fancy Dahlias; a silver-gilt medal was awarded. Fruit in splendid condition came from several well-known trade exhibitors. Mr. H. Berwick, Sidmouth Nurseries, Sidmouth, Devon, was awarded a silver-gilt medal. Messrs. J. Laing and Sons, Forest Hill, Messrs. W. Cutbush and Sons, Highgate, N., and Messrs. S. Spooner and Sons, Hounslow Nurseries, Middlesex, each received a silver medal. Mr. H. Deverill, Cornhill, Banbury, had a large table of hardy herbaceous flowers (silver medal). Messrs. H. Cannell and Sons, Swanley, set up a pleasing group of Cannas, also a table of Chrysanthemums, receiving a silver medal. Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, had a large group of Chrysanthemums on single stems, and as a base a huge quantity of hardy border sorts. We should have preferred these latter on a table by themselves, where their value would have been fully appreciated by those interested in an outdoor display, for which this type of the plant is so admirably adapted (silver-gilt medal). From Mr. W. J. Godfrey, Exmouth, Devon, came a large table of Chrysanthemum novelties, many of them of great promise. To these, together with a useful lot of Carnations, a silver medal was given. Mr. Robt. Owen, Maidenhead, had a small table of Chrysanthemums, including some handsome Japanese novelties (bronze medal), and a pretty group of a new early Chrysanthemum Mrs. Wingfield, a pleasing shade of flesh-pink, was arranged by Messrs. R. and G. Cuthbert, The Nurseries, Southgate, N.

FLORAL COMMITTEE.

There was a fully-attended meeting of the floral committee on Tuesday last, under the presidency of Mr. Thos. Bevan. Novelties were freely, and, as a rule, well shown, but only four first-class certificates were given, viz., to—

CHRYSANTHEMUM RAYONNANTE.—A very large tubular-petalled Japanese variety, with long stiff florets of a pleasing shade of pale pink. Shown by Mr. H. J. Jones, of Ryecroft Nursery, Lewisham.

CHRYSANTHEMUM MR. F. BREWER.—A Japanese kind with deeply-grooved florets and of great breadth, making up a flower of good exhibition build. The centre florets are deep golden-yellow, being paler towards the exterior, reverse pale straw-yellow. From Mr. R. Owen, Maidenhead.

CHRYSANTHEMUM REGINALD GODFREY.—This is a closely-built Japanese, having flat reflexing florets, the colour of which is deep reddish terracotta with golden reverse, and was shown by Mr. Godfrey, of Exmouth.

CHRYSANTHEMUM SOLEIL D'OCTOBRE.—A French seedling of promise. It is a medium-sized Japanese October blooming variety of a very pure shade of pale canary-yellow. This also came from Mr. Godfrey.

Among others staged at the meeting were Werther, a richly-coloured large Japanese of purple-amaranth; Lord Coleridge, a yellow incurved, which the committee wished to see again; Mrs. W. Seward, after the style of M. Chenon de Leché, but perhaps a little richer in tone; and Crimson Marie Massé, a free-flowering sport from the rosy pink early sort, Mlle. Marie Massé.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

The annual dinner of this flourishing benefit society was held on Wednesday evening, October 5, in the Holborn Restaurant, Mr. Geo. Bunyard, of The Nurseries, Maidstone, in the chair. Among those present we noticed Messrs. N. N. Sherwood, H. B. May, J. G. Veitch, W. Nutting, J. G. Ingram, H. Laing, H. Weeks, besides many members and friends. The usual loyal toasts having been given and duly honoured, the chairman proposed "Success to the United Horticultural and Benefit Provident Society," and in the course of his remarks said that the society had on its books at the present time 728 benefit members, 64 new ones having joined since the beginning of the present year. Mr. Bunyard said it was not necessary for him to show the need of such a society, as the gardener's lot was a hard one and very often he was not paid as he should be. There comes a time when illness overtakes him, and then he finds the benefit of belonging to such a society as this, which is doing excellent work and filling a large gap. He urged on all present to try and get new members, either benefit or honorary, as many of those who joined early will soon be drawing their money out. This society gives 3 per cent. on the money paid in by members—surely an encouragement for others to invest.

Mr. J. Hudson, the treasurer, responded, and hoped that the society would soon number 1000 members. Young gardeners especially should carefully read the rules, and, after thinking the matter well over, at once resolve to join. He was glad to say that the invested funds were steadily increasing, last year by £100, and he hoped that this year would see a still further increase. The invested money per member in this society was greater than in any other he knew. The working expenses, too, were very low. The toast of "The Honorary and Life Members" was proposed by Mr. N. Cole, one of the original members of the society, who said that twelve years ago there were only eight honorary members, while to-day there are over fifty, including three lady members. He thanked the nurserymen for the interest they had taken in the society. Mr. J. H. Veitch replied in the absence of Mr. Sherwood, who had to leave early. He was very much impressed with the solidity of the society, and threw out the suggestion that if all foremen gardeners were approached and the benefits of the society laid before them, they would, he thought, at once join. Mr. T. Winter proposed the toast of "The Visitors," to which Mr. S. T. Wright, of the Royal Horticultural Society's gardens, responded. Mr. H. B. May proposed the health of the chairman, which was enthusiastically received. Mr. Bunyard, having responded in a few well chosen words, read the following list of donations, viz., Mr. L. de Rothschild, £1 ls.; Mr. Garcia, £1 ls.; Mr. G. Monro, £1 ls.; Mr. J. Watkins, £1 ls.; Mr. Sherwood, £5 5s. to the Convalescent Fund; Mr. J. H. Veitch, £3 3s.; an anonymous donor, £1 ls.; Mr. Cox, £1 ls.; Mr. S. T. Wright, 10s. 6d.; Mr. R. Dean, 10s. 6d.; and Mr. Pinches, 10s. 6d. "Kindred Societies" was proposed by Mr. Roupell, and replied to by Mr. Ingram, the energetic secretary of the Gardeners' Benevolent. Mr. R. Dean gave "The Horticultural Press," which was

responded to by Mr. Geo. Gordon. The secretary of the society (W. Collins) thanked the donors of fruit and flowers, this being replied to by Mr. J. McKerchar. The musical arrangements were in the hands of the Lamb Brothers' Glee Club, who gave during the evening several songs, part songs and instrumental solos.

At the quarterly meeting one of the oldest members, having attained the age of seventy years, was allowed to withdraw £6 from the sum standing to his credit (nearly £80) in the ledger, the balance being left in the society to accumulate for the benefit of his wife. He at the same time was allowed a sum of 8s. per week from the Benevolent Fund, being now incapacitated from work. This sum, to be paid him quarterly till the end of his life, is more by 16s. a year than the pension granted to aged gardeners in the Gardeners' Royal Benevolent Institution.

Rosebery Avenue.—The London County Council have informed the Clerkenwell Vestry that they will accept the latter's offer of £100 for the small triangular plot of land at the Farringdon Road corner of Rosebery Avenue, on condition that the Vestry will pave it, plant it with trees, and maintain it as an open space, a condition with which, it is understood, they are ready to comply.

The weather in West Herts.—Since the beginning of the week a considerable fall in temperature has taken place. This has been more marked in the case of the nights than the days, the readings of the exposed thermometer on those preceding the 6th and 7th being respectively 54° and 51°, whereas on each of the last four nights the same thermometer has fallen below 35°, and on the coldest of these registered 3° of frost. At 2 feet deep the ground is now 3° warmer, and at 1 foot deep 1° warmer than the October averages for these depths. Some rain fell on three days during the week, but to the total depth of only about a tenth of an inch, consequently the percolation has again quite ceased through both gauges. The winds have been light, and the atmosphere as a rule very damp. The record of bright sunshine proved very poor, averaging only about an hour a day, while four days were altogether sunless.—E. M., Berkhamsted.

A late transplanting season.—According to the calendar we should now be busy executing orders for Roses, Gooseberries, Currants, trees, and conifers, and even lifting some few Pears and Plums for orders. But, alas! the land is as dry as possible, and below the surface as hard as a brick, making all this work impossible. Meantime we are bombarded with letters, such as "I am told now is the very best time to remove the things I ordered;" "If you are unable to supply what I ordered, you should have said so at the time;" "Unless my order is forthwith executed, please consider it cancelled." Well, what for a remedy? Why, patience. Practically the season is three weeks late, and as no fibrous roots can be got out of the hard soil, trust to the nurseryman to do his best. Apples are yet in full growth, and practically a week's heavy rain is wanted before lifting can be started.—GEORGE BUNYARD, *The Royal Nurseries, Maidstone, October 10.*

Name of fruit.—Addison Brown.—Box and contents received smashed.

Names of plants.—A. Sadler.—*Habenaria Susanna* (H. gigantea, Bot. Mag., t. 3374).—*J. S. S.*—1, *Clematis connata*; 2, *Clematis orientalis* (quite hardy).—W. Richardson.—*Hibiscus syriacus albus plenus*.—J. M. V.—American Burr Oak (*Quercus macrocarpa*). The cone-shaped growth produced is the larva of an insect; it has nothing to do with the Acorns or with seed-bearing at all.—Con.—1, *Retinospora plumosa*; 2, *Cupressus Lawsoniana*; 3, *Cupressus Lawsoniana favescentis*; 4, *Biota orientalis*; 5, *Cupressus Lawsoniana*; 6, *Pyrus Aria*; 7, *Kerria japonica flore-pleno*. The Cape Gooseberry is *Physalis edulis*.—Querist.—*Lamium glechomoides*.

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List of Coloured Plates

CHRYSANTHEMUMS.

RUST IN CHRYSANTHEMUMS.

I AM sorry not to be able to give such a satisfactory account of Chrysanthemums as that given by "Suffolk" in a recent issue. I never knew such a troublesome season, especially with insect pests. For some months, a small, but particularly lively species of thrips gave a great deal of trouble, and seemed proof against all insecticides that could be used with safety, while its activity and powers of jumping stood it in good stead when attempts were made to capture it by other means. It confined its operations to the extreme points of the shoots, where it could easily find shelter, and sucked the plant's juices to such an extent, that the leaves, and later on the flower-bracts, assumed a rusty appearance, and were hard and brittle to the touch. I believe I have to thank a big colony of ladybirds for help in ridding me of this pest. Earwigs, too, have been more persistent than usual owing to the exceptionally dry weather, and it required much time and patience to keep them down. Aphides of sorts were busy and bred fast all the summer, but these are the least of troubles, as they can be stopped by using mild insecticides before they do much harm.

Late in the summer the "rust" appeared (for the first time here), and its spread has been marvellous in spite of treatment generally calculated to deal with any fungoid disease. Washing the leaves and removing every visible trace of spores have been of no avail, as another crop appeared almost immediately, fresh spores appearing round the old spots. I cannot say that the attack has done much harm as yet to the prospective flowers, but the leaves on affected plants die quickly, and this loss of foliage must tell for evil, especially where the rust has spread to the upper leaves. Undoubtedly I was, like many others, caught napping, and the enemy had time to spread to a good many plants before it was

noticed; then it was treated to the dose of flowers of sulphur usually applied to plants attacked by the ordinary form of mildew. This proved useless, and the time lost in waiting to see the effects helped to spread the disease till the greater part of the plants was badly touched. I never saw such a rapid development of fungoid disease on plants before; it seems only a few days from the time the spots are first seen till the brown spores ripen ready to fall on the lower leaves, the soil, or to be carried anywhere on the slightest contact. If the rust is calculated to do great harm, the outlook for growers is black, as it will take but a very short time to stock all existing collections, and those who are fortunate enough to possess a clean stock will be chary about making fresh importations, especially as the fungus cannot be detected during its resting period, in winter. I am now trying washing the plants with a solution of sulphide of potassium, and also with the solution suggested on p. 254 as a remedy, but as the fungus in its summer form appears to burst outwards from the leaf, I do not see that anything which will not destroy the cuticle of the leaf can prevent its development, and we shall probably have to wait until the spring before such remedies will be of use as preventives of the germination of resting spores on the host plant. Burning the plants wholesale has been suggested as a remedy, but few could afford to adopt such a drastic measure, and there would still be no guarantee of cleanliness in stock purchased to replace the losses. It has also been suggested that naturally-grown bush plants, which get less rich food than those grown for big blooms, are more or less exempt, but I do not find them so, as many of my bush plants are very badly stricken indeed, and they have had no artificial manuring whatever, simply soot water and occasional doses of ordinary manure water. The fungus appears to be well known as native to some of our weeds, and it probably spread to some nursery collection from a district where these weeds were affected, and as no plant is

more freely interchanged throughout the country than the Chrysanthemum, this would account for the rapidity with which it has spread. A. G. Hubbuck, W. G. Newitt, Pride of Madford, Thos. Wilkins, Mutual Friend, John Seward, W. Slogrove, Golden Gem, Etoile de Lyon, James Bidencope, Mrs. W. J. Godfrey, Purity, Modestum, Cecil Wray, and all members of the Empress family are some of the worst affected varieties here. This singling out of varieties is hardly fair, as their bad state may be only a circumstance, and others might have been just as bad. Even seedlings raised this year are attacked—some quite badly. It may be that certain varieties will be found less susceptible than others, for Khama, of which I grow many plants, and Reine d'Angleterre, with various others, are quite free.

Turning to the brighter aspect of the plants, I may say that they have grown strongly, and very many promise to be good even though the leaves of some of them have taken the rust. Among those which promise best are Vivand Morel, Charles Davis, Phœbus, Lady Randolph, Pride of Madford, John Lightfoot, Australian Gold, President Borel, W. H. Lincoln, Edwin Molyneux, Lady Esther Smith, M. Pankoucke, Etoile de Lyon, James Bidencope, Lago Maggiore, Matthew Hodgson, Golden Gate, Reine d'Angleterre, Eva Knowles, and Khama. The plants have been housed with very little show of the ordinary form of mildew; they are abnormally tall, some varieties, such as Edith Tabor, Mme. Marius Ricoud, and a few others, reaching 10 feet in height, and others in proportion. This I do not mind, as, having lofty houses to fill, tall plants are no inconvenience, and a few extra tall ones make the blocks of plants less flat and more effective. Coarse flowers from early crown buds will be much in evidence this year, and with those who grow for show this is unavoidable, the tendency being to fix the dates of shows too early to allow such buds to be rubbed off in favour of second crowns, which give more shapely and better coloured flowers. In the

early days of Chrysanthemum shows the dates were later, and it used to be customary, even in the west of England, to have the shows after rather than before the middle of November, from that time to the end of the month being undoubtedly the proper season for the majority of Chrysanthemums. "H. S." (p. 289) speaks of a general earliness of show flowers this year, but this is not the case in this neighbourhood, and there has already been some talk of putting back dates. If this leads to fixing later dates for future years it will be one of the best things that could happen, as it would tend largely to eliminate the coarseness so generally prevalent and which is so obnoxious to many lovers of the Chrysanthemum. I think "H. S.'s" experience with Mme. Carnot will be pretty general this year, as I have seen but very few good buds and many that have turned black in the way described. I attribute it largely to early bud selection and not to insect attacks, for my plants, which were late-struck (in March or early April) and made late crown buds, are looking well and are past the dangerous stage.—J. C. TALLACK, *Livermere Park Gardens, Bury St. Edmunds.*

— Just now it would appear that many are the remedies for dealing with this so-called rust, which is assuredly a fungus of no light order. A curious point regarding it, so far as my knowledge of the disease is concerned, is that it appears on the under surface of the leaves in many kinds. I am not sure this is general or even characteristic of the plague, but if so it will render it far more difficult for any supposed remedies to reach it. Nor will the curling up so noticeable in some kinds assist the cultivator in this direction.—E. J.

GROWING PLANTS FOR EXHIBITION IN SMALL POTS.

A SYSTEM of culture which is becoming more common is propagating in the spring and flowering the plants on single stems in mostly 6-inch pots. Growers are beginning to appreciate the value of these late-struck plants for conservatory decoration and exhibition during October and November. The recent October show of the National Chrysanthemum Society showed the value of the system of culture advocated, the best and most meritorious collections containing plants treated in this way. The best flowers in the class for twenty-four Japanese blooms were grown in the manner stated above. The leading group in the competitive classes also contained flowers of exceptional beauty, and, as compared with the productions usually displayed a month later, the blooms were quite equal in point of excellence. The plants were dwarf and covered with healthy-looking green foliage down to the pots. The group from Mr. H. J. Jones was noticeable for the short plants arranged in circular mounds in the front, and many of the best blooms in this unique display were developed on plants flowering on single stems in 6-inch pots. A visit to the leading specialists will reveal the fact that the practice is extending. The orthodox method of growing the Chrysanthemum for years has been to insert the cuttings at any time between the end of November and the same period in the following January, suiting the time for this operation according to the earliness or lateness of the different varieties, commencing first with late sorts and finishing up with the semi-early or October-flowering kinds. To those with limited accommodation this has answered admirably, as the old stools have been thrown on the rubbish heap after the necessary supply of cuttings has been secured. The old stools, if they can be kept till the spring, should bristle with numerous growths of a sturdy character and of a kind that will root readily enough in early spring.

The best lot of plants seen this autumn was from cuttings inserted between mid-February and mid-March, and the flowers from these for an

October display develop to time beautifully. When the cuttings were ready shallow boxes were used, standing these on a cool bottom, the temperature of the structure being maintained at from 40° to 45°. Under such favourable conditions the cuttings rooted readily, and before the roots began to work into the soil too freely they were potted up into small, deep 3 inch pots. They were then replaced in the same greenhouse, and when it was seen they had got sufficiently established moved to a cold frame, which was kept close for a day or two. As soon as they were ready the plants were shifted into pots 6 inches in diameter. A collection of some few hundreds of plants has given some very remarkable results. When once the buds were secured it was a simple matter to build them up satisfactorily, and owing to the exceedingly hot and trying weather during the period of bud-formation and selection, a gentle dewing overhead with a fine-rosed can in the late afternoon occasionally saved many that might otherwise have been lost. A few sorts failed to open so kindly as could be desired, but the majority answering so well to this method of treatment should be an inducement to others to follow on the same lines.

For a November display later propagation is desirable, commencing with the late sorts about the middle of March and continuing on until the beginning of May to suit the earlier and more easily grown kinds. D. B. CRANE.

NOTES AND QUESTIONS.

Chrysanthemum Rayonnante.—For October flowering this Japanese variety should be in demand. The petals are very long and tubular and of fine substance, the colour a peculiar shade of pale salmon-pink, deepening in the centre, and not unlike that of the once popular Lilian Bird. The height is about 5½ feet. It produces its blossoms on first crown buds from a natural break at this season.

Chrysanthemum M. Fatzer.—This is a promising continental novelty, and may be had in bloom during October and November, according to date of bud selection. The colour is a rich canary-yellow, with a deeper shade in the centre and a pale golden reverse, the petals of medium width, slightly twisted and incurved, and building up a grand exhibition flower. The plant attains a height of about 4 feet.—D. B. C.

Chrysanthemum Crimson Mlle. Marie Masse.—This is a crimson sport from Mlle. Marie Masse, and, flowering during the months of September and October, is a valuable addition. It would, perhaps, be better to describe the flowers as a light bronzy crimson, and very early blooms would show a goodly proportion of rich golden yellow, freely suffused with a very pleasing light crimson. The petals are also bright golden on the reverse.—C.

Chrysanthemum M. Aug. de Lacvivier.—This is doing extremely well this season, the later buds producing even handsomer flowers than those secured a week or a fortnight earlier. The colour, as represented by the later buds, is a beautiful rich salmon-red, with a pale golden reverse to the broad petals. The earlier flowers are not nearly so rich in colour. Plants topped in mid-April give first crown buds about the first week in August, these being now fully expanded. The height is about 3 feet.—C. A. H.

A GARDEN IDYLL.

THERE are many beautiful gardens along the deep sandy shores of Dublin Bay, some nestling on sunny hillsides, others in sheltered valleys that stretch along the foothills at the base of the mountains, and some even nestle among the warm rocks laved by the sea. From the shores at Dalkey and Ballybrack to the wooded pleasure at St. Anne's there are gardens many and beautiful, but they may be found stretching even further to Raheny, Sutton and Howth, and back again inland. There is a zone of them from Rush and Lusk to Malahide and St. Dolough's, with its quaint old stone-roofed church, its anchorite's cell, and its exquisite little baptistry in an adjoining

meadow. Go where you will along the shores of the bay, or if you dip inland a mile or so you come across delightful country houses, old and new, and gardens of all sorts and conditions full of beauty and rich in vegetation. Although I have lived in and explored the district for well-nigh twenty years, I am still continually making discoveries in the magic zone of littoral that lies around the great horseshoe-shaped bay. From the old Cherry orchard of Killen-carrig (see THE GARDEN, May 8, 1897) to the giant red and golden-fruited Yew trees at Clontarf there is much to see and admire; rich and rare are the flowers from many lands that find a congenial home in these sunny gardens, and you can see and remember the Mulberry trees and the Ilex at Mount Merion, and run on through a whole catalogue of rare trees and shrubs until you come to the famous Iris borders beside the gentle concave grass paths at Dornden, the Hollies and Cordylines in the College garden, the original golden-leaved Yew and Addison's Walk at Glasnevin, the great Beech hedges, and the Rhododendrons that nestle amid rocks and white Thorn, and the tasselled Larches at Howth. To see these last in showery April or in smiling May is like a dream to a lover of gardens, and one does not quite know what most to admire there in early summer—whether 'tis the glow of crimson and white and lilac of the Rhododendrons or the gnarled old white Thorn trees wreathed and swaddled in Honeysuckle or Woodbine, in some cases 30 feet or 40 feet high. Just now, however, when Lime, Beech, and Chestnut are putting on their russet and golden tints, and when the golden Ivy on the old walls is nearly covered with the rich red leafage of the Virginian Creeper, when the last and best of Roses glint here and there, and the rosy Apples and great brown Pears hang in clusters on the bending boughs, it is a pleasant surprise to find yet one more delightful old house and garden I never saw before.

We hear much of Constable's or Gainsborough's country, or of Shakespeare's land beside the Avon, but how rarely are we told of these fertile garden spots in Ireland, enriched as they are with "memories of the dead" and the blood and bones of both swarthy Celt and fair-haired Dane. How can one picture to oneself to-day the fateful morning of the great battle of Clontarf in 1014, when Aulaf Sitric, king of the Danes in Dublin, was conquered by Brian Boru on this same sunny bit of shoreland which stretches from Dublin to Howth. Every foot of ground here is full of interest, and the funeral mounds of dead heroes now alone remain to show us how bitter the struggle must really and truly have been. Where stress and storm of battle raged there are now green or furrowed fields and gardens that yield to none in their wealth and beauty of vegetation. All the shoreland is indeed in itself a garden of wild flowers from early spring, when Gorse and Broom are succeeded by vernal Squills and hedge or sand Roses, until the dwarf autumnal Furze and the heather of the great headland, last foothold of the pirate Danes, brings us to the fall of the year.

Between the magnificent gardens at St. Anne's and the old sequestered gardens of Howth Castle, with their Lavender and Rosemary and great Gloire de Dijon Roses, there lies the village of Raheny, and here is a veritable garden of quite an idyllic kind. It is modestly screened from the road, but even the casual passer-by must know sweetness and light are within its evergreen enclosure, for the fragrance of Mignonette and Lavender, and of Stocks and Night-scented Tobacco, of Roses

and of Virgin's Bower Clematis float out on the balmy evening air. Here are Myrtles, fresh and fair and 10 feet high, glossy green and flowery under the overhanging thatched eaves, where the wrens build, and in the inner garden sweet-scented Verbenas, much taller, with many a scented flowering spray. It is one of the sheltered and sunny gardens that birds and bees alike love. It has no nightingales, like those gardens beside the Thames, but here at any rate the thrushes and blackbirds sing their earliest and sweetest songs, for it is a fruity paradise to them, and truly a garden that they and the poets alike are said to love.

The Peaches are gone, but the Grapes of sloe-like blackness and the amber Muscats dangle in rich clusters among the turning leaves in the old vineries, while on the border outside a great French soup Gourd (*Cucurbita maxima*), the "courgeron" of the French housewife, is displaying its great rounded fruits along its trailing leafy stems or vines. All around one is sunshine, and ceaseless the hum of the bees and flies. The wood pigeons coo softly in the tall trees quite near to the house, and one of the oldest and most faithful of the pensioned servitors of the family, a shaggy white Iceland pony, is browsing contentedly in an adjoining paddock, with one eye on the garden door, whence, as he well knows, the most succulent and toothsome Carrots or other delicacy come to him at least once or twice a day. There are the old flue-heated greenhouses which shelter many an old-time sweet-scented Pelargonium, and the old white, lemon, yellow, pink, and crimson Cacti that our grandmothers loved to carry indoors and set in the fine old oriental Chinese bowls when in bloom.

The house itself is a combination of a modern dwelling tastefully added to an older thatched cottage, and the union is veiled by a curtain of Clematis montana and Virginian Creeper, the latter so highly coloured as to remind one of the rugs hung out in Venice at festival time. The very name of the place itself is redolent of a garden, but it need not be told; sufficient is it to say that the place is a beautiful and satisfying reality, and that it stands in what I often think of as an idyllic little bit of country Dublin.

F. W. BURBIDGE.

ORCHARD AND FRUIT GARDEN.

MANAGEMENT OF EARLY PEACH HOUSES.

THERE was more early fruit-forcing twenty years ago than there is now, and the old gardeners were noted for their success in producing fine ripe Peaches in May. The extra early varieties, such as Waterloo and Amsden June, were not then in commerce, and they had to depend on such old standard sorts as Bellegarde, Noblesse, and Stirling Castle. Even now one tree of an early American variety is enough in an early Peach house, as most of them are not to be depended on, being such notorious bud-casters and the fruit not equal in flavour to many of the older, though slightly later-ripening varieties. Amsden June I consider to be by far the most certain bearer of the first early section; indeed, with me it never shed its buds when gently forced, and was always of good flavour if gathered in time and eaten soon after. A lean-to structure with a fair amount of wood in the roof is what I prefer for early Peach forcing. The modern-built houses with roofs composed almost entirely of glass, and built with a sharp pitch,

often become so hot from sun-heat even early in the year, when only a limited amount of air can be given, that harm ensues, and later on, in the case of houses with fixed lights, the temperature becomes so high that premature ripening of the wood and consequent bud-dropping follow. Formerly the roof-lights were removed entirely when the crop was gathered, this exposure to air and every shower of rain helping in a great measure to produce that bronzeness of wood and plumpness of bud which fit the trees for the strain of early forcing. I prefer both an inside and outside border, the latter raised so as to come on a level with the inside one, the soil being kept intact by low walls. It may be asked, Why have inside borders for early Peach houses? The answer is, Such borders, if covered with a foot or 2 feet of dry leaves and thatched with straw at the end of October to keep in the latent warmth of summer, will, when uncovered in April and acted on by the sun's rays, be quite as warm as the inside border, to say nothing of the beneficial and maturing influence of fresh air upon the roots. Trees growing in such borders do not hold their foliage late even in wet summers, but shed it early, thereby securing a long rest. In pricking the border over when uncovered in spring, a multitude of fibrous roots will generally be found near the surface. Of course, a little more labour is entailed in watering elevated borders, especially in hot summers, but they well repay it. I think many failures in early Peach forcing are attributable to the thoughtless practice of syringing the trees in the afternoon on cold, wet days. They remain wet through the night, and mischief follows. For ripening in May and the early part of June, Early York, Early Grosse Mignonne, Stirling Castle, Bellegarde, and, where room can be spared, a tree of the old Noblesse, which, if only bearing half a crop, pays for its space, it being, I think, universally admitted to be the finest flavoured Peach in cultivation. JOHN CRAWFORD.

Passiflora edulis.—From the inquiries that are being made and information solicited as to the cultivation of the above, it is evident more interest is evinced in this delicious fruit now than hitherto. I have of late received fruits of the true *P. edulis* from various sources, and have a few still growing here, but as the small size was in my case an objection, raising seedlings from selected fruits was resorted to, and as the young plants fruited rigid selections were made and the process repeated. At present I think my selected variety is a decided improvement in the matter of size, and to say the least, equally as delicious as the type.—J. ROBERTS, *The Gardens, Tan-y-bwlch*.

Pear Swan's Egg.—How is it we so seldom see any reference to this old Pear? Surely it cannot be because it is considered a worthless variety? Its extremely hardy constitution renders it suitable for exposed situations, and I consider no orchard is complete that does not contain at least one tree. It is an extra good grower, assumes naturally a handsome pyramidal form, the dense growth and foliage going a good way towards protecting the bloom in spring. It is a regular and heavy bearer and the fruit is very sweet and juicy. Swan's Egg is one of the best orchard market Pears, keeping sound a fair time after ripening, which it does at the beginning of October. I well remember when a boy filling my pockets from a very large tall tree, from which many bushels of fruit were annually gathered.—J. CRAWFORD.

Pear Beurre de l'Assomption.—I do not know what the experience of other gardeners with this Pear may have been, but with me it proved most unsatisfactory. It is a strong grower, and after a few years bears freely, but its fault is

that the fruit decays so quickly. I had a fine tree of it on a west wall, and used to pack the large fruits and send them to Scotland, gathering them before they readily left the spur, and I was invariably informed that soon after they reached their destination they were useless. Finally, I cut the horizontal branches back and grafted them with Olivier de Serres, which seemed quite at home, bearing a few fruits the second year from grafting. I do not wonder at gardeners rooting out or re-grafting these extra treacherous varieties with better keeping sorts, as when the trees bear a full crop all the fruit cannot be used in a given time and much of it is wasted.—N.

Morello Cherries.—Visitors to the Shrewsbury and Crystal Palace shows in August and September often see wonderfully fine dishes of Morello Cherries in the various collections of fruit. Those usually found on Cherry walls cannot compare with them. The trees, however, from which these monstrous fruits are gathered receive special culture. As a rule Morellos are trained too thickly, the roots also receiving little attention in the way of mulching and manurial waterings, black aphids often injuring the new growth. When once a healthy young tree gets established and commences to bear fruit it will take a liberal amount of feeding, liquid manure being poured on to a thick mulch of short litter, this being raised at the edges so as to prevent the liquid from escaping. The trees must be netted in good time, as birds will take the Cherries as soon as other fruit is gone.—J. C.

FAILURE OF FORCED FIGS.

THE season has been so favourable to Fig culture under glass, that there may have been fewer failures than usual, but I have noticed there have been such by inquiries in THE GARDEN. Failures are annoying, as they usually occur just as the Figs are taking on the last swelling. With trees planted out there is more trouble with the first crop than the second. This is readily explained. The Fig, being so gross if allowed free play, needs careful management to mature the first crop and at the same time build up wood for the following one. If excess of top growth is allowed, this is one of the principal causes of failure. My remarks apply to old trees in a restricted border with the roots under command. My idea is that dropping of fruit when nearly full grown must in a great measure be attributed to too much vigour in the trees. Fig trees do not always bear a heavy first crop. They have, so to speak, too little to do, and unless hard stopping is practised, the fruits drop badly. With stress of work I have seen trees left alone a few days. It takes time to remedy this, as if the lateral growth above swelling fruits has got the lead, the Figs will soon cease to swell, as the wood above absorbs all the sap and shrivelling of the fruit follows. With fruits at this stage there must be severe stopping. It may be asked, Why does this not take place with the second crop? One reason is that there is a greater quantity of fruit; the sap is more evenly distributed and the wood growth is not so strong in consequence. I may be wrong in my ideas as to fruit-dropping, but such is my experience, and I force Figs largely both in pots and planted out.

Excess of moisture overhead when the fruits are finally swelling is one cause of failure, this accounting for the fruits spotting, more especially in the case of the first crop. This is doubtless owing to want of air, the leaf of the Fig retaining moisture longer than a smooth leaf if it is given freely. The house, too, may be kept too close at this stage, and with Figs ripening, more air is a necessity. At times it is not given early enough, the consequence being the fruits decay. With excess of moisture must also be included too much heat and not enough ventilation. Inattention to the latter will cause dropping, especially when the two are combined. It is always well when the fruits are approaching maturity to lower the temperature at night and maintain a drier atmosphere both

during the night and in the day, this improving the flavour of the Figs. My worst trees as regards dropping or spotting are those at the middle of the house. Those on a back wall with more ventilation never suffer.

I have not referred to pot trees, but the evil is nearly as bad if the trees are of any size. Trees grown in pots during the late summer and not forced never lose a fruit. Such trees get more air and a less steamy atmosphere. Less fire-heat is employed, and they get more warmth from the sun. Some kinds grown in pots, such as St. John and Pingo de Mel, do not fail like the Brown Turkey, one of the worst if allowed free growth and given too humid an atmosphere when the fruit is finishing. I have not included Negro Largo in my remarks, as this I do not force hard. In fact, if one does, the crop is not heavy enough; far better bring on quietly, then it finishes well, and for late forcing it is very good and at that period gives no trouble. This remark applies to some other late kinds, such as Signora Bianca, a fine late red-fleshed fruit. Nebian needs the same treatment as Negro Largo. The smaller Figs, such as the Ischias, both Black and White, rarely fail if forced. These produce a great quantity of fruit, and will if grown liberally give three crops in one year. Three crops should, however, never be taken, as this treatment will affect the earliest crop the next season. I think one of the worst failures is caused by neglect of stopping. G. WYTHES.

Peach A Bec.—Fifteen years ago this Peach seemed to rush to the front and bid fair to become a leading variety, especially for forcing. Now, however, one seldom hears or reads of it. So far as flavour is concerned it has few equals, being similar in that respect to the old Noblesse. It used to be a great favourite with Mr. Coleman, when gardener at Eastnor Castle. Perhaps it is rather tender and requires skilful cultivation. One of our largest nurserymen who once had a stock of it does not now catalogue it. Perhaps some reader of *THE GARDEN* will give his experience of A Bec.—NORWICH.

Pine-apple Moscow Queen.—There are two varieties of the Queen Pine-apple, that under the name of Ripley Queen being the better known and more generally cultivated. My favourite, however, is the Moscow Queen, a larger pipped, heavier sort than the Ripley. They are about on a par as regards flavour, but the plants of the Moscow are hardier and more easily grown. The habit of growth is stiff and the plants do not, as a rule, attain a great height. An old Pine grower once said to me, "If you get a fairly good plant of Moscow Queen you are sure of a good weight of fruit." It is also far less liable to develop large, ungainly crowns. Some years ago, when gardener in Worcestershire, I had a good stock of Moscow Queen, but have only seen a few in one collection since. The leaves are very dark in colour, and on well-grown plants carry a dense bloom.—B. S. N.

Colour in Apples.—Those who hold the idea that sunlight and warmth are only needed to put colour on the cheeks of Apples must have had a rude awakening on seeing the deficiency of colour throughout the major part of the Apple exhibits at the Crystal Palace fruit show. Last year colour was a strong point; now we find many varieties that are usually well coloured green in the ground and dull in the flush. Possibly the alarming extent to which blackbirds and tits have raided orchards in search of moist food during the abnormal drought may be accountable for some of this deficiency, as it has been impossible to keep them away from the earliest and best coloured fruits except by rigorous netting, which becomes impossible when dealing with orchard trees. The Apples from Kent were for once very little better off for colour than those from Essex, Suffolk, Norfolk and other more northern counties where the drought has been severe. Most of the highly-coloured fruit came from the western counties, where a moister atmosphere has prevailed and

where there has been more wind. My experience is that Apples colour best in years when light showers and stiff breezes, accompanied by a fair amount of sunshine, are fairly prevalent during the late summer months, and I think the experience of this season is quite sufficient to prove it.—J. C. TALLACK.

MISTAKES IN ORCHARD TREE PLANTING.

So much has been written of late regarding the selection of ground and its preparation for an orchard, that a few notes on mistakes made in this matter may not be out of place. It is a simple matter to say what kind of soil and situation should be selected for hardy fruit culture, but it is, I fear, a rare thing to find the right formation in the right place. In fact, I believe it more frequently occurs that the question of disposing of certain pieces of land more often leads to the planting of orchards than would otherwise be the case. If such land happens to be of the right sort, and will respond to the kind of cultivation adopted, all is well, but should its composition entail careful consideration to securing the best conditions for hardy fruit-tree growth, there is just a possibility of a mistake being made in its preparation. Writers, as a rule, select a loam of good depth, and rightly, too, for orchard trees, and this they recommend cultivating deeply. If naturally well drained and rich in readily soluble constituents of plant food, trenching is just the thing for it. These conditions, however, will not obtain in one out of a hundred of the plots given up to fruit culture, yet trenching, be it sand or clay, deep or shallow, is carried out with the same persistency by some as if it were mellow loam. Recently I came across a small, newly-formed orchard, where the owner did not consider the initial expense, provided healthy fruitful trees were secured. The soil was of a sandy nature, 3 feet deep, with a substratum of sandy rock. By a regular system of top-dressing with manure, the surface 9 inches was in a very fertile condition, but the lower portion, as will readily be imagined, was rather poor. By way of preparing this land for orchard trees, the person responsible for the work had it trenched to its full depth. The rich surface soil was placed in the bottom, and the barren sand brought to the top. In due course the trees were planted and the space occupied by their roots heavily mulched with manure. As will naturally be concluded, the plants existed, but the growth was very poor. The mistake made in putting the fertile layer of soil so deep in this case was twofold. It was beyond the reach of the plants' roots for immediate requirements, and it would eventually draw them down to a cold, ungenial position. Under such unfavourable conditions the trees could not avoid getting into a bad state of health. A few practical lessons of this kind would go farther in convincing cultivators of the errors of their ways than pages of sound instructions in the gardening press. Now the above mistake has been discovered, the best means are being taken to bring up the barren surface soil to its maximum of fertility by heavily dressing it with liquid and solid manures, bone-meal, and sulphate of potash during the winter months.

Another example of an error in judgment in connection with the preparation of sites for fruit trees on heavy soil came under my notice some time ago. About 9 inches of the surface of this were fairly good heavy loam, and below this were layers of gravel and clay. In this case only 5 feet square was trenched 2½ feet deep for each tree, but the same mistake was made in this instance as in the foregoing in placing the surface portion in the bottom and the bottom on the top. As this was done early in autumn and the clay and gravel mixed with well-decomposed organic matter from the refuse heap and ridged, the winter's frosts, rains, and atmosphere ameliorated the conditions of the mass in favour of the plants' requirements. The trees were planted in spring and did fairly well for a few years, but when the

roots had permeated the soil in this limited space an unsatisfactory state of things manifested itself. In order to find out the cause of crippled growth, some of the trees were examined at their roots, when it was found that the major portion of these had gone down into the bottom layer, used all the food it contained, and were seeking for more in the walls of clay and gravel by which they were surrounded at that depth. Had all the ground been treated in the same manner as the 5 feet square for each tree, even although it was a mistake to bury the best soil so deep, in all probability the orchard would have become a fairly satisfactory one. At this stage there was no reason why the whole should not be trenched, so far as the plants were concerned, but men and money were scarce, and a course of surface feeding was decided upon instead, to try to retrieve the ground lost.

Both of these orchards were laid down in grass, so that there would be no digging to destroy the surface roots. The question of securing a mat of feeders near the surface seems to be generally under-estimated, even although frequently pointed out. Yet the most casual observer cannot fail to see the difference in the health and fruitfulness of trees with the majority of their roots within the first 15 inches of the surface soil, and those whose roots are in a cold lower layer. Mistakes like these referred to may be exceptions, but by pointing them out, others of a similar nature may be avoided and more rational methods obtain.

J. RIDDELL.

Little-grown Apples.—Doubtless with the praiseworthy desire to popularise what may be very excellent Apples, the single dish classes of the dessert section at the recent Crystal Palace fruit show included Allen's Everlasting, not at all an attractive name; D'Arcy Spice, Duke of Devon-hire, Egremont Russet, James Grieve, and Lord Hindlip. Of the last not a dish was shown, and there were very few of the former varieties. Evidently they are little grown, or produce such poor samples that few care to exhibit them.—A. D.

Nectarine Humboldt.—"E. M.'s" note (p. 234) on that fine, richly-flavoured Nectarine Pine-apple reminds me of that other fine yellow-fleshed variety Humboldt, which, by the way, is a seedling from Pine-apple. The fruit grows even larger than Pine-apple, though perhaps not quite so rich in flavour. The tree is a good grower and very fair cropper. I once put in some buds of Humboldt on a tree of Lord Napier, and as the young shoots grew I cut away some of the wood of Lord Napier, giving Humboldt a share of the trellis. It did wonderfully well, fruiting regularly and ripening quite a fortnight later than Lord Napier. In gardens where glass accommodation is limited this budding is an advantage, as a greater variety and also a longer succession of fruit can be secured, and some sorts seem to do better thus treated. Mr. McIndoe has done a good deal of budding one sort on to another at Hutton Hall at different times with much success. Princess of Wales Peach budded on Violette Hâtive did well with me, the fruit being very fine.—N.

Plum Gordon Castle.—Very rarely is any reference made to this Plum, and more seldom is it seen, at any rate in the west of England. I cannot remember having met with it anywhere except in these gardens, and it is represented here only by one cordon tree, which furnishes one of the piers of the garden wall. Dr. Hogg, in the "Fruit Manual," describes it as large and obovate; skin greenish yellow, flesh rather firm, sweet, and with an excellent flavour. He also says it is useful for growing in the north and late situations. This may explain somewhat its absence from southern districts. With me it assumes a different colour from that given by the late Dr. Hogg, having quite a rosy flush when exposed to the sun; indeed, this is so marked that at a distance it would not be taken for a Plum at all. It comes into use here in September, and makes a very striking dish when placed on the table. It is rather shy bearing as a cordon; whether it would be more free as a

fan-trained tree I cannot say, but probably it would, many kinds of Plum not bearing freely as cordons. It is, I think, the most distinct of all Plums, larger than Washington, and the rosy flush known to this kind in its true form is intensified in the case of Gordon Castle.—W. S., *Road Ashton, Wilts.*

Plums.—In a year when Plums have not been quite at their best I must note the good cropping qualities of Oullin's Golden and Transparent Gages and Golden Drop in dessert varieties, and Early Prolific, Czar, Diamond, Pond's Seedling, and Imperiale de Milan in cooking sorts. So far as the latter are concerned, from the first pickings of Early Prolific in the middle of July I have been gathering every other day for the kitchen until the present date (September 24) besides the supplies for preserving, and Imperiale de Milan and Coe's Late Red will carry us on until nearly the middle of October, a length of season that illustrates the great value of the Plum where it can be planted rather largely in variety. The damage usually caused by birds has been obviated this year by netting all the trees. Cheap wide mesh netting answers the purpose, as blackbirds are responsible for the mischief. On a north-east wall Diamond and Imperiale de Milan are this year very good.—E. BURRELL.

PLANTING STRAWBERRIES ON DRY GROUND.

ONE of the chief points to be observed in forming new Strawberry beds is providing sufficient root moisture, so as to give the young plants a good start. Not unfrequently a deal of time and trouble is given to preparing the runners, these being eventually spoiled by being planted in loose, dry soil, perhaps on a plot from whence Cauliflowers or Potatoes have just been cleared. Water may be given artificially, but more often than not growth under such conditions is slow and unsatisfactory, and although the plants may have been quite free from insects when put out, red spider often gets a hold and forms quite a colony before winter. If this should be mild the pest lives on, ready to renew its destructive work as soon as warm spring weather appears. When such plots have to be dealt with, and at times there is no help for it, the only safe way is to well soak them with water, allow the surface to remain for a day, then firm well by treading twice over, and finally water well again. This may seem a lot of trouble, but it is really a saving of labour in the end, as if each plant is firmly embedded, watered home, and mulched round with a little old Mushroom manure or rough leaf-mould, water will in all probability not be wanted again before rain comes; whereas when planting is carried out in dry soil, one may be always watering, and yet the plants seem little the better for it. There is no need to mulch the whole surface of the ground at planting time; the distance of a foot round each plant is sufficient. When Strawberries are planted between rows of spring-sown Onions there is never this root moisture difficulty, as the ground being firm retains the moisture and is altogether far more suitable for the roots than ground which has been robbed of every drain of moisture by impoverishing summer crops. We sometimes read of gardeners clearing off a crop of Potatoes, Peas, or Cauliflowers, loosening and levelling the surface, and planting Strawberries at once, but when we consider the impoverishing nature of these crops it is evident that most of the virtue must have been taken out of the manure that was dug in in spring, and that the Strawberries will have to go short. Even supposing the plot to be remanured, manure fresh from the cow or pig-yard is not the best medium for promoting the growth of such foliage and crowns as will ripen well before winter. I am quite sure that if gardeners would plant on Onion plots which were well manured early in the year, sowing the Onion seed in lines 2 feet or 2½ feet apart, they would be satisfied with the crops of both. It is always advisable, whether spider is visible

or not, to syringe young Strawberry plants with sulphur water previous to planting.

J. CRAWFORD.

FERNS.

FERNS FOR COVERING WALLS.

THERE are few positions where Ferns are seen to better advantage than when used as a covering for a wall in a shady position. There are various methods of doing this. Cork pockets may be used, or earthenware pots made for hanging against walls answer the purpose. Perhaps the best way is to cover the whole surface of the wall with rough peat and other soil, fixing it up with wire netting. Only quite small plants can be used to start with when this method is adopted, but with ordinary care they soon get established. In making a selection of suitable Ferns for the purpose, the space available is the first thing to consider, and in planting care should be taken that the small and choicer sorts should not be placed where they will get smothered by the more vigorous-growing sorts. Among the best for the purpose are the Adiantums of the Capillus-Veneris type. Davallias, Nephrolepis and some of the Polypodiums may be recommended. There are also others, where plenty of space is available. I may mention *Stenochlæna scandens*, which spreads rapidly even if grown in pots, and given a good start it will cling like Ivy, and the bright green pinnate fronds are very effective. *Pteris moluccana* does not spread so rapidly, but for an elevated position on a wall it is a very fine Fern. Of Adiantums there are few better than the old form of *Capillus-Veneris*. The varieties *imbricatum* (which has very broad pinnules), *grande* and *magnificum* may be recommended. *A. assimile* is one of the most rapid growing, and where the rhizomes can spread freely they soon cover a good space. *A. Moorei* (amabile) is also worthy of note, but, unfortunately, it is deciduous, and this is rather against it where a good appearance is required to be kept up throughout the year. Most of the Davallias will do well, as they do not require so much root-room as most Ferns. The varieties of the dissecta type are perhaps the best, as the rhizomes spread rapidly. *D. Mariesi*, though deciduous, is a desirable variety. It remains dormant but a very short time, and the new fronds will generally start before the old ones are off. *D. Tyermanni* has rather small fronds, but the silvery grey rhizomes are very conspicuous. Where space will admit, Davallias should be freely used, as they give a variety of shades and always have a bright fresh appearance. Next to these the Nephrolepis are the most useful for walls. *N. pectinata* is the smallest growing and one of the best, though not quite so hardy as *N. philippinensis*, which is more erect in growth and of a deeper green. *N. exaltata*, now so extensively grown for market, is one of the best where plenty of room can be given. The crested varieties of *N. davallioides* are very pretty, but are inclined to get too dense for walls. All of the Nephrolepis require a little looking to and thinning out as the young plants spring up. *Goniophlebium subauriculatum* requires a warm position, and will make drooping fronds fully 6 feet long. The dark bronzy fronds of *G. appendiculatum* give a variety in colour. Of Polypodiums there are a number suitable for the purpose. The small-fronded *P. pustulatum* spreads freely and forms a dense mass of deep green. *P. glaucum* (*Goniophlebium*), which has small ovate fronds of a pale glaucous green, is very useful. This must not be confused with *Phle-*

bodium glaucum, which more resembles *P. aureum*, but has smaller and more drooping fronds, and is also a good wall Fern. The *Platycerium*s never do better than when growing against a moist wall. Although they will grow on a piece of wood, they do better where they can root into some rough peat, but should be placed where they do not get too much moisture. A. H.

NOTES OF THE WEEK.

Peaches in Devon.—We have received a photograph of a tree of the Diamond Peach in Captain Hody's garden at Pomeroy, Honiton, Devon, bearing 306 fine fruits; also photographs of Noblesse and other kinds, which clearly show that the Peach does admirably in that district.

Chrysanthemum Queen of Earlies.—At the Aquarium last week were some notable examples of this fine early white, that is, so far as the heads of bloom were concerned, for the stems, which were cut of an extraordinary length, were quite leafless—a possible result of the dreaded fungus rust.

Ixora Dixiana is one of the most effective of the family, the rich dark red-orange flowers being produced in great numbers. The size of the heads of bloom and the colour thereof are not the only points of merit, for to these must be added the great freedom of flowering. The corymbs are very compact and well formed.

Hæmanthus coccineus.—This old and showy kind is very conspicuous when grown in large pans that accommodate a number of its huge bulbs. This was the case in a large example flowering at Kew the other day, the specimen in question containing about eighteen of the rich scarlet heads that make a fine display.

Verbena Ellen Willmott.—This pretty kind should once more materially assist to develop the taste for the Verbena, seeing it is one of the showiest and most profusely flowered that has appeared for a long time. A nice lot of its flowers at the last meeting of the Royal Horticultural Society proved that it is a capital late-blooming sort.

Chrysanthemum de la Guille.—Should this prove a reliably hardy sort, its colour should render it among the most popular. The plant is very free-flowering, the colour a soft chrome, with a suspicion of light orange in the tips of the florets. The flowers are also borne on freely-branched stems, and the whole plant is not more than 2 feet high.

Aster Mary Crum.—This white-flowered Michaelmas Daisy is highly thought of by many. I do not consider it equal to either John Wood or Madonna, but it appears to be of taller habit here than either of these fine varieties. The flowers, too, are smaller and more starry, but they are of a good colour and very suitable for cutting.—S. ARNOTT.

Aster seedling from Arcturus.—Last year the Rev. C. Wolley-Dod sent me a seedling Michaelmas Daisy from *A. Arcturus*. It did not attain its full character until this year, and as it is growing beside the parent, one can now see that it is superior in size and colour. *A. Arcturus* is deservedly a favourite from its deep lilac flowers and its generally effective appearance.—S. ARNOTT.

Crinum fimbriatum.—Quite recently this handsome species was noted in flower at Kew. The flowering example had produced a stout and vigorous scape 2 feet high and an umbel of ten or twelve flowers, the latter of good substance and coloured externally to a large degree with reddish purple, the inner portion of the segments being white and lined or striped with a similar reddish purple hue.

Cuphea eminens.—This species with its shrub-like stems is quite distinct from the ordinary bedding kind, which is of prostrate habit and short-lived. The above plant attains fully 3 feet high, the stems somewhat woody, and in the upper parts freely covered with tubular-shaped blossoms of an orange and yellow shade. The plant is quite distinct among many greenhouse subjects now in flower.

Lobelia cardinalis Prince Arthur.—In the well-known kind Queen Victoria it would appear we had all that was necessary for brilliant and striking effect in the garden among these flowers, yet the above undoubtedly goes one better in that it is of a more intensely vermilion-scarlet shade. A bed or large

group of such an one would have a remarkable effect. Coming, too, in the waning summer months, its uses may indeed be manifold.

Kniphofia grandis.—This certainly is, as implied by the specific name here given, one of the finest of the Flame Flowers. Its beauty, however, is not seen until the plants have become established, and the strong massive spikes tower aloft in a manner supremely noble and effective. In the distance, too, its massive spikes of deeply-coloured flowers, as much as its noble growth and general vigour, impress all who see it for the first time.

I have a large bed of this with great numbers of spikes like those sent, with many others just showing, and with moderate weather they will continue to flower up to Christmas. I found it growing at Tresco, Isles of Scilly, but the name was not known there. It is a constant bloomer, very strong grower, and, I think, one of the best of the whole family.—W.M. SANGWIN, *Trelissick, Truro*.

Nicotiana affinis.—While the early frost has quite swept away many tender flowering plants, this provides quite a display each evening, which is quite apart from the wholesale fragrance that it sheds around. Happily, the plant is not tender; indeed, in some gardens it proves quite a true herbaceous plant, and enduring the winter, springs again from the underground rootstock. No vestige of life is apparent from the surface, and, where possible, the plants should be allowed to remain undisturbed, as the older plants flower much earlier the second year.

Aster turbinellus.—Those who require a beautiful and pleasing Michaelmas Daisy for pots cannot do better than grow this charming kind. In point of habit it is perhaps one of the most elegant of all the race, and when seen in the form of large bushes is exquisite. What provides such an elegance and beauty of form in this kind is the rather exceptional length of the peduncles bearing the prettily coloured and solitary flower-heads. It must be seen fully grown if we would get all its beauty. The ray florets are of a violet shade, tipped rose, and the whole plant is very graceful.

Ixora coccinea lutea.—Such is the name of a very distinct and welcome kind among these well-known stove-flowering shrubs. The colour of the flowers is a pleasing and decided tone of rich chrome-yellow, and therefore very striking among this class of plants. It evidently bears a strong likeness to *I. coccinea*, otherwise so exceptional a plant at first sight would appear to merit specific distinction. Small bushes of this handsome form, which is a native of Ceylon, were recently in flower at Kew.

Colchicum autumnale album.—The double white Colchicum has been very fine this season, and the flowers appear to be rather larger than usual. It increases rather slowly, and this perhaps accounts largely for the high price at which the corms are still sold. Like other Meadow Saffrons, it requires the support of other plants to keep its blooms upright, but I fancy it lasts longer in bloom if the flowers lie prostrate on a carpet of Saxifrage or Arenaria. I saw a rather pretty effect the other day of Meadow Saffrons growing among the leaves of *Iris cristata*.—S. ARNOTT.

Oenothera macrocarpa.—This trailing Evening Primrose still gives us a few of its fine yellow blooms. It is said to be sweet-scented, but I cannot detect the odour. It may, however, be present earlier in the season than at this time—the middle of October. Very pretty, however, are the large flat cups of pale but bright gold, below which are the red and creamy-white calyces, which look so attractive in themselves. At this season this Evening Primrose is not so fleeting in its beauty as earlier in the year, the blooms remaining in perfection for a few days at a time.—S. ARNOTT.

Begonia Gloire de Lorraine.—The compact bushes of this beautiful plant that were so much admired at the Drill Hall last week showed the value of this for winter flowering. The pots, too, in which the plants were growing were only 5 inches in diameter, the plants themselves slightly balloon-shaped, being 15 inches to 18 inches high, and at the most globular part of the plant nearly a foot through. What struck one most of all was the perfect manner in which the

plants had been turned out, a remarkable instance of high-class culture in a plant that shows the least bruising or crushing.

Notes from Hopton Hall.—I send you a picture of one division of the orchard here. The whole is laid out in large square plots with wide grass walks. Strawberries are planted among the Apple trees. The north is protected with a high rough stone wall rapidly being covered with Roses. The whole length of the border is a mass of gorgeous colour produced by *Crocus* planted last autumn. The other picture is part of the other division of the orchard, showing Tritomas with, on the wall, Roses, as *Rêve d'Or*, Bouquet d'Or, Gustave Regis, now a mass of colour, and Gloire de Dijon.—G. BOLAS.

Aster cordifolius Diana.—While large-flowered Asters are very desirable, those with small flowers produced in great numbers must not be neglected. Some of these have a most elegant habit, and there is much beauty in the sprays of tiny flowers so many of them give us. No collection of Michaelmas Daisies can be said to be complete which does not contain some of these small-flowered varieties. *A. cordifolius Diana* is not so new as some, but is likely to remain long in favour. In my light soil it grows about 3½ feet high, and has erect stems with sprays of beautiful little lavender flowers.—S. ARNOTT.

Saxifraga peltata.—I enclose you a photo of *Saxifraga peltata* growing by the side of my lake, where the damp soil suits it splendidly. The leaves are very large, each quite 18 inches across. It is a handsome plant and looks well wherever you see it from. It loves a damp, sheltered spot, its natural habitat being in California, growing by the side of water. The flowers are produced in the spring before the leaves appear, and are on stalks from 1 foot to 2 feet high. In front, inside a wire guard, I grow in the water the Japanese *Iris* (*Iris Kämpferi*), the Saxifrage forming a good background to this beautiful *Iris* when in flower.—G. DIXON.

Aster grandiflorus.—In spite of the great heat of the past summer, this handsome species of Starwort does not appear a success in the open garden. This is due in all probability to the intense heat of midsummer, coupled with the absence of moisture, which together checked the growth of many plants. Indeed, quite ordinary subjects were at a standstill for some time, as may be gathered more clearly now that their season of flowering is here. The same thing occurring to this Starwort would account for the lateness of the plants to show flower. It is unfortunate so beautiful a plant is so late blooming, as this renders it all but useless in the open garden.

Calceolaria Burbidgei.—In the large conservatory late in summer and through the early autumn months this species is very effective. In smaller buildings the height to which the plants attain would preclude its use, as not infrequently does it reach to 8 feet and even more. At Kew at the present time there are plants fully the height stated in flower in the greenhouse, and the large blossoms, which are of a rich and decided yellow, render it a striking plant when amid suitable environment. This fine hybrid is the result of crossing *C. Pavoni* and *C. fuchsiae-folia*, the plant having originated with Mr. F. W. Burbidge at the College Gardens, Dublin.

Sternbergia lutea in Scotland.—So unsatisfactory are the various *Sternbergias* in the south-west of Scotland, that I am pleased to learn in a letter from Mr. Robinson-Douglas, of Orchardton, that *S. lutea* has flowered with him this year. This, Mr. Robinson-Douglas remarks, has not flowered with him for some years. I can only regret that I have not been so fortunate this season, as my bulbs have not given me a bloom. This is the invariable experience here since the first season after planting when *S. lutea* flowered. When Mr. Whittall sent bulbs of *S. macrantha*, which flowered the first season, I was in hopes that it might prove

more suitable to our climate than *S. lutea*. Unfortunately, this is not the case, and I have to regret that these fine autumn bulbs will not bloom here with ordinary treatment.—S. ARNOTT, *Carse-thorn, by Dumfries, N.B.*

Carnation Nox.—In the interesting notes on Carnations lately in THE GARDEN, "H. S." refers to this new dark self as a "first-rate gain." But is not this endeavour, which aims at making step by step these beautiful garden flowers so dark that we shall soon see them of a sooty black hue, a rather doubtful gain? I think Nox can only be a gain in that it is the darkest kind that has yet appeared among Carnation seedlings, for it is much too dark for effective gardening. In the open, beds of it would carry but little weight, while as a button-hole flower it would be quite out of place, unless a special white background be made for the occasion. Regarded as a border flower, which is the true place for the variety named, Nox would be dull and dark, while Mephisto, a shade or two lighter, would produce a far better effect.

Flowers in October.—Autumn, and yet summer still in garden colouring. A magnificent mass of *Begonias*, white, red, pink, and yellow, as large in flower and full of colour as on an August day, is growing beside a bed of *Heliotrope*, still full of bloom. Under the wall immense plants of *Fuchsia* are rich with a wealth of blossom. Pale lemon *Calceolarias*, beside tall bushes of elegant *Pentstemons* in white, pink, and deep maroon; enormous bushes of bright blue *Hydrangeas*; *Chrysanthemums* making masses of white and yellow; *Starworts* of many kinds, mixing with *Evening Primrose*, *Hollyhocks*, *Tobacco flowers*, *Marguerite Daisies*, scented *Verbena*, and Japanese *Anemones*, make a profusion of blossom. Seldom have *Dahlias* lasted so long into the autumn. Still from tall poles *Ivy-leaved Geraniums* fling great trusses of deep-coloured flowers, and the *Clematis*, untouched by frost, weighs down the arches over the kitchen garden walk. In the Rose bed, great bouquets for the drawing-room may yet be cut from *Mme. Nabonnand* (perhaps the most useful of all the late-blooming Roses), *Pernet-Ducher*, *Princesse de Sagan*, *Anna Olivier*, *l'Idéal*, *W. Allen Richardson*, and *Papa Gontier*. Sheltered in a corner near the house an immense cluster of beautiful *Belladonna Lilies* is in fullest bloom, while the large masses of *Marguerite Carnations* furnish an invaluable supply of cut bloom.—D., October 17.

Stokesia cyanea.—The flowering of this plant in the open border is by no means a common occurrence. It is very distinct not only in the branching character of the plant, but also in the colour of the flowers and the construction of the root-stock. It is this latter character that renders propagation by division a most uncertain method, as frequently there is a one-legged stem for an inch or more under ground, which is scarcely suggested by the tufted crown of leaves that cluster thereon. Uncertain, therefore, by division, too late in flowering also for any hope of securing seeds, would appear to almost preclude the idea of increasing the plant at all. It is, however, one of the most easily raised of all composites by means of root cuttings. The roots produced are long and fleshy, and when cut into lengths and put into greenhouse warmth are not long in showing signs of life at the apex of the cutting, which is always best just exposed. So reliable is the plant in this respect that it is rarely a root perishes—at least such as may be counted of sufficient size. Even where not needed for the border, the habit of the plant is so good and its flowering so profuse as to render it quite worthy of being grown in pots for greenhouse decoration. At the last meeting of the Royal Horticultural Society the plant was noticed in flower in at least two collections. By inserting root cuttings early in January and growing in pots till the end of May there is hope—in the southern counties at least—of securing many flowers in a favourable and mild autumn.

TREES AND SHRUBS.

RAPID GROWTH IN A YEW TREE.

ONE of the most remarkable Yew Trees in England is growing at Shugborough, near Staf-

ord, eighty or more years ago. The gravel is apparently derived from the old red sandstone, and there is no sign of chalk, which has been supposed to be essential to the healthy growth of Yew trees, in the vicinity. The age of this tree is, I take it, almost precisely that of the



Yew tree at Shugborough, near Stafford. From a photograph by Mr. F. Bonney, Colton House, Rugby.

ford, the seat of the Earl of Lichfield. It is noteworthy, not only for its form and for the extraordinary spread of its branches, but for the manner in which they have taken root and for the rapid growth of the young shoots after rooting. In some instances these have made from 12 inches to 15 inches in the present year (September 26). The main stem girths 10 feet 2 inches at 3 feet, and 12 feet 6 inches at the ground, and consists of three separate trunks, welded together up to 4 feet 9 inches. Its height is 42 feet. All the lower branches touch the ground, rooting all round, leaving one entrance. The longest radius is 43 feet 6 inches, and the diameter 87 feet, circumference 261 feet. One of the rooting branches measures 7 inches in girth at 8 feet 6 inches from the trunk. At 8 feet from this point it had a girth of 27 inches. Another measures 10 inches at 6 feet 6 inches from the trunk, and the upright stem, 23 feet from this point, girthed 24 inches. In several instances the branches rooted a second time. This peculiarity of the branches taking root is, so far as I know, unique. Even the Clontarf tree, which greatly resembles it in size and appearance, having a very similar mode of growth with a diameter of 76 feet, has none of its branches rooted. The tree at Crom Castle, Fermanagh, would have had much the same habit had not its branches been raised from the ground on props and the trunk mutilated at an early period.

The Shugborough tree owes its vigour, apparently, to its growing in gravelly soil, about 7 feet above the river Sow, a tributary of the Trent, and to the free supply of water from this source and from a pool of water near to it on the other side, which existed there

Clontarf tree, between 250 and 300 years, but from the combined character of the trunk the former number is probably the more approximate age. The Crom Castle tree, which has a similar girth, has a record which makes it appear as 159 years old, but its girth is no doubt increased from its having been lopped and trimmed at an early period.

JOHN LOWE.

Pernettyas.—A group of these forming a compact mass of foliage and covered with berries reminds one that sunshine and heat must shortly give place to the leaden skies and murky atmosphere that too frequently characterise our English winters. Neat of habit with glossy evergreen foliage and laden with berries of varying colours, these *Pernettyas* are of immense value for the winter embellishment of the outdoor garden. I was told that at Oakwood the birds do not take the berries very early, so that these fruit-laden little shrubs give us the full measure of their beauty at a time when something bright cheerful is most needed. I noticed more particularly a clump of these *Pernettyas* forming a mass of foliage and smothered with many-hued berries, every berry being fully exposed to the eye. This, I believe, is due to the fact that annual pruning is practised at Oakwood. I saw other groups with long upright growths, and which were not nearly so attractive. Anything more pleasing than a group in fruit it would be difficult to find at this season.—J. C. B.

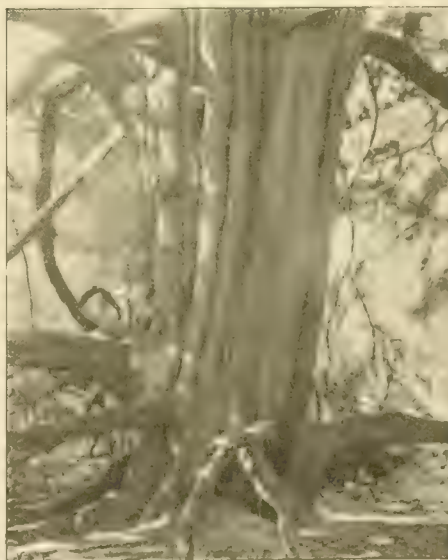
Vitex Agnus-castus.—At no time can this be regarded as a showy shrub, while it is also too tender for many districts of England. Even in the neighbourhood of London it thrives better as a wall plant than in the open ground, and just

now at Kew on the wall of the herbaceous ground a large specimen a dozen feet high or so and about the same in width is flowering with remarkable freedom, and is in this stage decidedly ornamental. This *Vitex* is in a warm, light soil rather a free-growing shrub clothed with compound leaves, the leaflets of which are of a lightish green and hoary beneath, thus imparting to the entire plant quite a greyish appearance. The flowers, which are borne in terminal branching panicles, are arranged in whorls, and though individually by no means attractive, they form collectively a decidedly ornamental feature, and at this season of the year, too, with very few shrubs in bloom, they are additionally welcome. This *Vitex*, known also as the Chaste Tree, occurs in a wild state along the shores of the Mediterranean both in Europe and Africa. It has been long known in this country, having been introduced in 1870, but at the same time it is very rarely seen.—T.

NOTES ON HARDY SHRUBS.

CLEMATIS ORIENTALIS.—This is not one of the most showy species of *Clematis*, but the late season at which it flowers and the unusual colour of its blossoms make it well worth a place in the garden. It is a climber of vigorous growth, reaching a height of 12 feet to 15 feet. Commencing to flower in August, it continues through September and, if the weather be not too wet and cold, into October. The blooms are very freely borne, and each one measures upwards of 2 inches across, the colour being a tawny yellow—one of the rarest shades to be seen in *Clematis* flowers. They are, like most of these late-flowering species, fragrant, but not so strongly as is *C. flammula* or *C. paniculata*. The foliage is thin and of a pale, slightly glaucous green. The species is a variable one, owing no doubt to the extensive area over which it spreads in a wild state. It reaches from Persia and the Himalaya to Manchuria. It is sometimes grown under the name of *flava*, although a still better-known synonym is *graveolens*.

KOELREUTERIA PANICULATA.—This is a tree of medium size—that is, between 20 feet and



Bole of Yew tree at Shugborough, near Stafford. From a photograph by Mr. F. Bonney, Colton House, Rugby.

30 feet high—which grows wild and in great abundance on the hills near Pekin, also in other parts of China, but it does not appear to be, as has sometimes been stated, a native of Japan.

It is deciduous, and chiefly noteworthy for its very distinct and handsome foliage. The leaves, each about 1 foot long with the leaflets deeply lobed and toothed, are of a rich dark green in summer, turning a deep yellow before they fall. The tree produces its flowers towards the end of the summer in light branching panicles; they are small, of a dull yellow, and without perfume. The four oblong petals are all on the upper side of the flower. It only produces fruit in exceptionally favourable years, such as the present. The species was introduced by Lord Coventry about the year 1763, and flowered and fruited at Kew so long ago as 1787, yet specimens of full size are very rare, possibly owing to the tree being naturally short-lived. Recently a new species has been obtained from China. This is *K. bipinnata*, distinguished by its doubly pinnate leaves. It has not yet flowered here, but there is a fine batch of young plants at Kew raised from seed sent by Dr. A. Henry from China. Koelreuter, after whom the genus was named, was a German botanist and cultivator, still remembered by the number of experiments he made in the artificial fertilisation of plants.

CARYOPTERIS MASTACANTHUS.—However much the heat and the long drought of the summer and autumn may have adversely affected many shrubs and plants, they have evidently suited this, which I have never before seen so strong or so finely in flower. The mildness of the two preceding winters has doubtless been in its favour, for it is a plant that suffers during our hardest winters if left without some kind of protection, and although not often killed outright, it is liable to start weak and late, and even by the end of the growing season is no larger than it was at the same period of the previous year. It has now, however, had three seasons of unchecked growth in which to acquire its natural vigour and beauty, and is now a compact, rounded bush 5 feet through and 3 feet high. It is of semi-woody growth and belongs to the *Verbena* family, producing its flowers in short, semi-globular cymes, one of which occurs in each of the axils of the leaves. The blossoms are closely packed in each cluster, which are of a bright and pretty blue, the lower lip of the corolla being fringed. The leaves are each 3 inches to 4 inches long, woolly, and coarsely toothed. It was first introduced from China by Fortune, but afterwards was lost to cultivation, and was not seen in English gardens till Mariès re-introduced it from Japan when collecting there for Messrs. Veitch. It is best, perhaps, grown near the base of a wall; in the open it ought to have a winter covering of dry leaves and branches. It thrives with little or no protection in places on the Continent, where they experience considerably harder frosts than we do here, but that is the case with many shrubs, and is simply due to the greater amount of sun-heat they get in summer, which ripens up and hardens the growth, and makes it much better able to withstand cold than our comparatively soft and sappy wood.

HYPERICUM HOOKERIANUM.—Considering the comparative scarcity of autumn-flowering shrubs, it is certain that the *Hypericums* might be advantageously used to a greater extent than they are at present, more especially in country gardens (of which there are many) where there is a special desire that the gardens should be as bright as possible from the middle of August onwards. Of the taller-growing *Hypericums* the species under notice is the best and handsomest, occupying in that group much the same position as regards merit that *H. Moserianum* does among the dwarfer species. Hooker's *Hypericum* is, however, the hardier. It is a

native of the Sikkim Himalaya at an elevation of from 8000 feet to 12,000 feet, and is found also in Assam. In some of its native haunts it grows as much as 8 feet in height, but here it appears to be about half as high. It has reddish bark and fine foliage, the oblong leaves being nearly or quite sessile and 1 inch to 3 inches long. It commences to flower in August and keeps on through that and the following month. This year it is quite gay now—at the beginning of October. The flowers, of a rich golden yellow, about 2 inches across and slightly cup-shaped, the petals full and broad and of good substance, are produced at the top of the plant in corymbose clusters. Lobb was the first to send this *Hypericum* home, having found it on the hills about Mufflong, in Assam. There is a variety of it in cultivation called *Leschenaulti*, but it is of little value as an outdoor shrub, coming from lower elevations, and consequently more tender than the type.

THE CROSS-LEAVED HEATH (*Erica tetralix*).—This is the commonest of the true *Ericas* in Britain, and although it does not cover our moors, heaths and mountains to the same extent that the common Ling or Heather (*Calluna vulgaris*) does, it is widely distributed in the three kingdoms, and covers large tracts in some districts. It is now past its best, but is still in flower. The blooms are produced in an umbel at the top of the stem, from five to about a dozen on each. The corolla is rose-coloured (the upper side being of much the darker shade), contracted towards the mouth and swollen towards the base. The leaves are arranged in fours crosswise at each joint; their margins are rolled back under so as to make them appear narrower than they really are. From the nearly allied *Erica Mackayi* this is distinguished by the pubescent calyx and seed-vessels. The plant is deep green and healthy in appearance. There is a variety with white flowers, and another found by Mr. Borrer in Cornwall which is remarkable for the curled woolly hairs with which it is covered. The cross-leaved Heath is a useful autumn plant in positions where dwarf subjects only are wanted; it grows from 9 inches to 18 inches high.

HYDRANGEA HORTENSIA.—At this season of the year there is nothing perhaps among flowering shrubs that strikes the northern gardener so forcibly on entering the favoured gardens of the extreme south and south-west of England for the first time as this old and popular plant. To him it has hitherto been a greenhouse plant solely, but in the Devonshire and Cornwall gardens he sees it a vigorous, hardy shrub, crowded with its huge trusses and making a gayer display than anything else just now. In Mr. Rashleigh's garden at Menabilly it lines the carriage road much as the Laurel or Rhododendron does further north. Although near London it never produces so fine a show, it may occasionally be seen nicely in flower. This autumn, for instance, it has produced a goodly number of trusses, this being due to the absence of severe frost for nearly three years, which has enabled its shoots to survive the winters and the plants to gain annually in strength. Severe frosts, even of short duration, cut it back to the ground, and although it springs up freely enough afterwards, it is very rarely that these one-year-old shoots flower. It is not a plant that likes fierce sunlight. I notice this year in full exposure its leaves have turned quite yellow. It is better planted with other shrubs that can afford it both shade and shelter. No plant name is more persistently mis-spelt than this. It is generally written *H. hortensis*; properly it is, as given above, "*H. Hortensia*," the specific name being really adapted from an

old generic name for this *Hydrangea* and its varieties. Even when the name is spelt correctly, its derivation is nearly always erroneously given. I must confess to having sinned in this matter myself. For the sake of correctness, the following extract may be quoted from a French book called "*Inventaire des Cultures de Trianon*," written by Le Comte Jaubert, and published in Paris in 1876. The work is interesting to tree lovers because the gardens at Trianon were the favourite ones of the French royal family previous to the Revolution, and many of the first American and Oriental trees introduced to France by Michaux and others were planted here. With regard to the specific name of this *Hydrangea*, Count Jaubert says:—

It is generally believed that the *Hortensia* bears the name of Queen Hortense, daughter of the Empress Josephine, and for this reason it was used sometimes, under the Second Empire, as a political emblem. This is a grave error. The plant was dedicated by Commerson to Mme. Hortense Lepaute, wife of a celebrated clock-maker of Paris, whose friend the botanist was (p. 29). W. J. B.

NOTES & QUESTIONS.—TREES & SHRUBS.

Hardy Fuchsias.—The note by "E. M." on the splendid examples of hardy *Fuchsias* growing in gardens around Cromer reminds me of the fine bushes of *Riccartoni* which used to grow in the pleasure grounds at Blickling. They were planted along the centre of a wide grass verge on each side of a long pleasure ground walk and looked charming. *Fuchsia Riccartoni* is a capital variety for planting in round beds on well-kept grass, the long weeping shoots laden with small brilliant flowers having a particularly graceful effect in autumn.—C.

The Tulip Tree.—Few trees enrich the landscape in late autumn better than a good variety of the Tulip Tree. Even in early summer its glossy foliage and quaint blossoms are very interesting, but it is when the foliage has taken on a beautiful golden hue and is viewed from a distance on a sunny, breezy, autumnal day that its real value for park adornment is seen. The wonder is that the Tulip Tree is not more often planted. The finest specimens I have seen are in Thorndon Park, Brentwood. There is also a fine specimen in Langley Park, Norwich.—C.

Planting the Spanish Chestnut.—It seems this does not receive the attention in this country it merits. Apart from its commercial value, the tree is very ornamental, especially when grown as an isolated specimen with plenty of room. Frequently it is seen huddled up amongst other trees in plantations, where it gets no chance of development. There is a vast difference in the fruit produced by different trees, some being small and almost worthless for eating. In sandy soils in East Anglia the Spanish Chestnut thrives well. A row of trees I know in a sunny position close to a wide stream of water yields good crops of nuts, which for size and quality quite equal those sent from abroad.—J. C.

DESTROYERS.

Wasps.—In his note on wasps (p. 261) Mr. Burrell inquires if I had noted whether these were altogether responsible for the damage done to Pears, or if they follow in the wake of tits. With me the sampling of the fruits by tits is invariably followed by the attacks of wasps and bluebottle flies. I notice that they do not always wait for the small probe of the tit if the latter has its attention directed to some other source—Sunflowers, for instance. Most of my Pears are grown on large bush trees, and while the tits find abundant food from these the wall Pears do not suffer serious molestation; indeed, it is only in exceptional cases that damage is done to Pears on the walls; nor do the tits seem to take the trouble to go beyond the bush trees in order to carry on their mischief. It is surprising the extent of damage a few birds will do. In the spring, or rather the early summer, I made a determined effort to decrease their numbers by

destroying every nest containing eggs, but although not nearly so numerous as in other years, they are, nevertheless, too abundant now. Sun-flowers seem to have an even greater attraction for the tit than fruit when the seeds are ripening.—W. S.

Birds versus insects.—I know of but one bird that befriends the gardener in taking caterpillars as food, and that is the cuckoo. Gooseberry trees are safe so long as this bird can be induced to visit the garden and is not molested in any way. Doubtless even the cuckoo would be surfeited in dealing with the myriads of caterpillars there are in evidence just now everywhere. I can never remember a time when garden vegetables of the Brassica tribe were so completely defoliated as now. The black fly which infests Peaches, Plums, and Cherries in the summer, so far as concerns birds, remains undisturbed; so must the Celery fly, Turnip flea, and an aphid now appearing in strong force among new Cabbage plantations. The harm done by birds every year throughout the fruit season is too well known, and I have yet to learn in what direction to look for compensation for the havoc so wantonly committed. The thrush I always favour because of its fondness for the house-snail and white slugs. Seed-eating birds, such as the linnets and finches of different kinds, are of no value in destroying insects. There are some smaller birds that do good in this direction no doubt, but they seem not to be in attendance when most needed. I cannot, therefore, agree with "J. G." that we are suffering from a depopulation of the feathered tribe as affecting the good they do in destroying insect enemies of the garden. Here there is abundance of birds, migratory and native, and unfortunately, too, there is a greater number of insects, winged and otherwise. The protracted drought does undoubtedly explain away much of the trouble.—W. S., *Rood Ashton*.

NOTES ON PEAS.

WE have to thank our numerous correspondents throughout the country for the interesting replies to the following queries regarding Peas:—

- (1) Which do you consider the best Peas—new or old—taking into account cropping and good flavour?
- (2) Which do you consider the best early, the best midseason, and the best kinds to yield a supply into the late autumn?
- (3) What is the best time to sow Peas for an autumn supply?

—The drought has told heavily upon the crops of Peas this year, especially the later varieties. The tropical heat and consequent extreme aridity of the atmosphere caused the flowers to curl up instead of set properly, followed by attacks of mildew, and although the late rows of Peas were grown in trenches and heavily mulched and watered, the crop was somewhat unsatisfactory. Early and midseason varieties gave good results. I rely upon three early varieties, viz., Veitch's Selected Early, Early Giant Marrow, and Gradus, with a few rows of William the First and a breadth of Chelsea Gem, followed by Main-crop, Masterpiece, Autocrat, and Veitch's Perfection. My sheet-anchor late Pea is that good old variety British Queen, always reliable and a far better successional cropper than any other kind known to me. Its only drawback is the very tall sticks required, but the fact of being able to gather Peas in so long a succession from the same rows is no small advantage and well worth the extra height of stakes. This kind has a strong, robust constitution, and I have sometimes used 6-feet wire netting, 4-inch mesh, fixed to stout stakes when ordinary sticks were scarce, a roll of netting on either side of row and sloping outwards, with excellent results. My latest sowings have turned out best, when sown from June 1 to middle of same month, but the seed must be sown very

thinly. Such rows give high quality Peas into October, according to weather.—W. CRUMP, *Madresfield Court, Great Malvern*.

—Peas this year have been very good. I sowed the following sorts on the same day:—Selected Lightning, Early Morn, Daisy, Early Giant, Excelsior, Seedling Marrowfat, William Hurst, English Wonder, and Chelsea Gem. Of these I consider Early Giant the best early sort. It is of true Marrowfat flavour, a good cropper, and grows about 4 feet high. If a second sort is wanted, Excelsior might be given that place. Early Morn I do not consider of true Marrowfat flavour, but it is a fine cropper, the Peas being of a pale green colour. Daisy is a fine Pea in all respects, but not early enough for a first early. For midseason varieties I consider Prizetaker, Autocrat, and Alderman the best. Eureka is the heaviest cropper I know, but the pods do not carry that nice dark bloom seen on Prizetaker and Autocrat. For yielding a late supply I give the first place to Autocrat and Alderman. The best time to sow for late use is, I find, from the 5th to the 10th of June.—JAMES DYMCK, *Stoke Bruerne Park, Tamworth*.

—I grow William the First and William Hurst for early use, and they give every satisfaction. For midseason Peas nothing beats Duke of Albany and Telegraph. I always put in a sowing of Walker's Perpetual Bearer in March, and it comes in very useful and is a splendid-flavoured Pea. It is no good sowing later than the second week in June. As a rule I put in my first Peas on the 1st of February, and then once a fortnight until June.—THOMAS SIMPSON, *Stourton Court, Stourbridge*.

—Within recent years many sterling varieties of Peas, which are undoubtedly decided improvements on the majority of the older sorts both as regards cropping, flavour, length of pod and size of Peas, have been introduced. A few of the older sorts I still adhere to for sowing early in the season on account of their being hardy, but even these will have to give way to the newer earliest Marrow Peas should the latter continue to give satisfaction. For second early, main-crop and late supplies I have discarded the majority of the older kinds, with one exception, and that is Veitch's Perfection. This sort is subject to mildew in some places. Here it is all one can desire. I consider the newer introductions as grown here to be superior to the older sorts, with the exception of the reservation mentioned above. I have hitherto found Veitch's Selected Early and Dicksons' First and Best to be the two best early Peas, but this opinion has been modified in favour of Veitch's Earliest Marrow. The last-named sort is quite as early as the sorts first quoted and infinitely superior to them in every way, both as regards cropping and quality. Harbinger, another fine early Marrow, is but a few days later, and is a first-rate Pea of most excellent quality. The best midseason Pea here this season, taking everything into consideration, is Veitch's Main-crop. This is a splendid sort, an enormous cropper, and the quality is first-rate in every particular. For yielding a supply into late autumn I find nothing to equal Autocrat and Sturdy. The best time for sowing here for autumn supply is from the beginning until the end of June. By sowing the two sorts just named in their order at intervals through the month I seldom experience any difficulty in having Peas late in the autumn or until the plants are cut down by frost.—A. WARD, *Stoke Edith Gardens*.

—The first crops of Peas are sown in the open ground, the dwarf ones on a border, towards the end of February or early in March, according to the season and the state of the soil. The varieties chiefly depended upon are Chelsea Gem and Wm. Hurst for dwarfs, the former being considered the better of the two, May Queen, Veitch's Selected Extra Early, and William the First. All of these produce excellent crops and of good quality. The next sowing includes Gladiator, which is considered one of the very best, and Dr. Maclean also invariably does well as a succession. Later on Autocrat, one of the

most reliable, Criterion and Ne Plus Ultra, the last still one of the best flavoured, are sown. I make the latest sowing early in June, but sometimes get only a very poor supply in autumn, as they are attacked most years with pests of various kinds, which prevent anything more than a moderate return. The two first sowings generally do better than later ones, and this season is no exception. Several other varieties have been grown, but those named have been the best both as regards cropping and flavour. When mildew or thrips do not spoil the crop I have to net as a protection against hawfinches and tomits, which eat the young Peas soon after they are formed. Netting, however, is after all only a partial remedy.—J. GARRETT, *Batsford Park, Moreton-in-Marsh*.

—Varieties of Peas are so numerous, or sent out under so many different names, that a selection of the best is a difficult matter. Quite recently I noted that a grower for private use was recommending over a score of varieties; but, fortunately, there is no need to grow so many, less than a dozen sufficing for all needs and being far more satisfactory to the cook. For the first crop, those who prefer a green Pea will find nothing better than Springtide, a fine cropper, very full-podded and handsome, the flavour being equal to that of any other of the very early Peas, and the plant hardy. Chelsea Gem is also a splendid early Pea, and I have for many years made this my standard early variety, and to succeed it I depend on an old favourite, Dr. Maclean. Gradus, too, is a grand second early, and now that it is again possible to obtain it true, it will take some beating. Thomas Laxton, of which I grew a few this year for trial, is a magnificent variety as far as can be judged, the pods large, the Peas green, very sweet, and closely packed in the pods. It came in within a week of the first earlies, and I feel sure that it will prove a valuable addition. Criterion is the first of the main-crop Peas, and its splendid qualities are too well known to need any further remarks. As I do not care for any of the very large-podded Peas, of which I may take Duke of Albany as an example, I follow Criterion with another old variety, Champion of England, which is a fine cropper and well flavoured. Sharpe's Queen is a fine main-crop Pea and suitable for those who have a difficulty in getting tall sticks. From the first week in August I depend on successional rows of Ne Plus Ultra to provide the supply until Autocrat comes in to finish the season. Ne Plus Ultra can hardly be beaten for quality and hardness, its only fault being that it runs to a great height, but it bears prodigiously. Of Autocrat I make two or three sowings from the middle of May to the first week in June, and the last sowing provides a supply up to the time when frost puts an end to the crop. Autocrat and Carter's Michaelmas are the two best late Peas I have grown, and the quality of both is splendid; they resist mildew well, and I have never seen either in an unhealthy state. I grow a few rows of Springtide and Chelsea Gem in addition to the above for late work, but do not find that they are so generally useful as the late varieties proper. I find it useless to sow even these early varieties later than the last week in June here, as early frosts are prevalent. The varieties mentioned in the above note are those on which I am depending this year. Others of equal merit might possibly have been included, but these are sufficient for the requirements.—J. C. TALLACK, *Livermere Park Gardens, Suffolk*.

—Early kinds grown are Chelsea Gem and Veitch's Selected Extra Early; both sorts bore excellent crops. The Selected Early came in a week earlier than Chelsea Gem, followed by Exonian. Main-crop was the next to come into use, and I think this Pea bore as good a crop as anything I ever saw, and the quality A1; it grew over 4 feet 6 inches this year. I have grown it several seasons and it is one of the best for mid-season. Veitch's Perfection is a favourite with me, but will not compare with Maincrop as a garden Pea except in quality. The next is Duke

of Albany, a good cropper and of good quality, about 5 feet 6 inches this year in height. Closely following this comes the grand old Pea Ne Plus Ultra, which requires plenty of room. This year it was about 6 feet 6 inches to 7 feet in height, and the crop is splendid in every way. I have tried a Pea this year for the first time called Exhibition Marrow. It seems to be well worth growing, having large pods and large Peas of good quality, and is quite 4 feet high this year; I shall try this variety again. The next in rotation is Veitch's Autocrat. I grow Dwarf Mammoth for later use, and I generally make a sowing about the third week in July of Omega or some other good dwarf Pea for a chance late crop, and sometimes I get a fair lot of Peas from a sowing made about that time, but it all depends on the weather.—J. HOLLINGWORTH, *Margam Park Gardens, Talbach, S. Wales.*

The early sorts I sow are Veitch's Exonian and Selected Early; second crop, Criterion; third, Criterion and Duchess of Edinburgh; next Veitch's Autocrat, and last crop Ne Plus Ultra. All the above I find in good seasons keep up the supply from about the second week in May up till September. I find the end of June a good time for sowing the last crop of Veitch's Autocrat and Ne Plus Ultra, both of which I consider excellent late Peas.—JAMES COOMES, *Englefield, Reading.*

Gradus I consider the best early Pea. It is quite as early as American Wonder or William Hurst. The best midseason one is Duke of Albany, a splendid Pea, a good bearer, and very sweet. The best time I find to sow for late use is the middle of June; those sown about the 1st of July are only able to get the pods formed when the frosty nights set in, so that they never fill.—ROBT. McKENNA, *Charleville Forest, Tullamore.*

After three years' trial, I consider Sutton's Perfection the best main-crop Pea, the Peas being large, pods well filled, and flavour excellent. It is an enormous cropper and lasts good longer than any other sort I have grown. Were I restricted to one Pea for main crop, this would be the one I should select. Ringleader I grow for first crop. Sown in the open border in February, it comes into use in the beginning of June. I have almost abandoned the practice of sowing Peas under glass and planting out, as it entails a lot of labour with small returns. By making a sowing in a warm border in the first week of November, I gather nearly (if not quite) as early as from those sown under glass and planted out, with double the crop. No crop pays better for liberal treatment than Peas, deep trenching and heavy manuring on light soils being, in my opinion, the surest way to obtain abundance of good Peas. I generally select for the main crop ground that has been cleared of Strawberries the previous autumn, trench it 2½ feet deep, and throw it up into ridges during the winter. Late autumn Peas have not been a success the last two dry seasons. Having tried several of the newer sorts so highly recommended for autumn supply, I find that Telephone and Telegraph have been the most useful, bearing splendid crops and lasting until the middle of September. After that date I do not count upon a regular supply of Peas for various reasons. Years ago when in Roxburghshire I used to have Veitch's Perfection Pea in grand condition in the beginning of October. Here I have tried it several times without success.—DAVID KEMP, *Stoke Park Gardens, Slough.*

For the past few years I have tried numerous varieties of Peas, both early, midseason and late. I find William I. suit this climate best as an early Pea. Gradus is a capital Pea, but with me it is ten days later than William I. Boston Unrivalled, though classed as midseason, turns in here quite as soon as Gradus, sown on the same date. It is a strong grower, a heavy cropper, and when cooked of fine flavour. I look upon it as one of the best new Peas. For a mid-season supply I find The Duchess, Duke of Albany, Alderman, Barnet Hero and Dr. McLean to be the best. Alderman is a splendid Pea, an enormous cropper, producing its pods in pairs

and of the finest flavour. Barnet Hero is a dwarf-growing variety, the average height being 3½ feet, the haulm covered with deep green pods, carrying from seven to nine peas of first-rate flavour. For autumn supply I sow William I. on June 15 and Boston Unrivalled on the 20th. I get far better returns by sowing early sorts on the above dates than sowing later ones two or three weeks earlier.—R. J. SHILLINGTON, *Vallufield House, Penicik, Millothian.*

STOVE AND GREENHOUSE.

DAFFODILS IN POTS.

It is not generally known what very beautiful subjects Narcissi are for greenhouse and conservatory decoration in early spring. The soil for potting should be good turfy loam rather strong than otherwise, with a dash of sand and a little good leaf-mould to keep it open. The bulbs should be potted in October for flowering about March; earlier if the flowers are wanted

attempt to force the bloom unless the roots have had full time to develop. When properly covered, as advised above, no amount of frost will harm the plants. In 1894-95 some were frozen up under fibre until well into March; the leaves had grown through the fibre, and nothing could be moved until a decided thaw set them at liberty. These plants produced most beautiful blooms, though of course rather late.

When removed to the frame or greenhouse where they are to flower, Daffodils should be placed near the glass to prevent drawing, and should have all the air that can be given with safety. No water need be given while in outside quarters, and not much will be required until growth is pretty well advanced. When the buds are showing well liberal supplies may be given, especially to the stronger-growing kinds, but avoid a sodden condition of soil.

When out of bloom the bulbs may be turned out without disturbance, only removing the drainage. The clump may be planted in the open ground, where the bulbs will gradually ripen off without further attention, and be useful for planting out the following autumn, but must not be relied upon for pot work. Emperor, Empress, Maximus, Telamonius plenus, Obvallaris, Sir Watkin, Barri conspicuus, Minnie Hume, Leeds amabilis, and Cynosure are some of the best varieties for pot culture. Some are not so showy as others, but all are beautiful in their way, and the blooms being kept free from dust and smuts are particularly fresh and dainty looking.

PEARSON AND SONS.

Chilwell, Notts.



Narcissus Empress. From a photograph sent by Messrs. Pearson and Sons, Chilwell, Notts.

sooner. The later-blooming plants will always be the finer; very early flowers will be at the expense of size and substance. Make the soil firm, but not hard. When the potting is finished, the necks of the bulbs should be level with the surface of the soil. Five bulbs per pot is a good number. Emperor and some of the largest bulbs will require an 8-inch pot, while for the smaller kinds a 6-inch will be large enough. It is better to err on the side of having too many to the pot than too few; two or three bulbs in a pot produce no effect.

Having potted the bulbs, place the pots out of doors on a bed of ashes or something that will exclude worms, and cover them with some 6 inches of cocoa-nut fibre, old tan, or similar light material. Avoid coal ashes, and leave untouched until the time comes for bringing into the greenhouse. This will vary according to the time the blooms are required, but if early flowers are wanted, early preparation must be made by early potting; it is useless to

tion of the base of the stem cut off they will remain in good condition for a fortnight if not confined to too hot a room. The bulbs should not be forced two years in succession.—C.

Begonia Gloire de Lorraine.—This beautiful winter-flowering variety is now too well known to need any description, but a word or two as to what it will do throughout the winter may be of interest. It was generally supposed that it would not make a plant large enough for anything beyond a 5-inch pot, yet if the early flowers are taken off and the plants potted on into 6-inch or even 8-inch pots, they will make fine specimens and continue to bloom even longer than those in smaller pots. By giving a little liquid manure frequently and keeping the plants well exposed to the light, they will continue to bear a mass of bright pink bloom well into April. Some varieties, especially hybrids, seem to deteriorate, but this is an exception, at least so far as my experience goes, for this season it has made more vigorous growth and finer plants than I have ever seen before. The great secret of success with this Begonia is to get good healthy plants to start

with. Those propagated from flowering shoots never branch out and make well-furnished plants. —A.

LAPAGERIAS IN POTS.

THERE is a common belief that Lapagerias, except in a few isolated cases, do not succeed satisfactorily under pot culture. That perfect success,

and the growths trained together over a corridor, the mixed colours having a very elegant appearance. I would advise those who may have failed with the Lapageria in pots to give it the treatment above described. NORWICH.

Thunbergia grandiflora. The remarks of "H. P." (page 277) on this not-often-met-with stove climber should induce those who have plenty of heat and space at command to give it a trial. Its delicate blooms when produced in quantity have a very striking appearance. The first plant of this Thunbergia I saw was at Hutton Hall, Yorkshire, agood many years ago, and I then thought what a fine subject it would make for exhibition. As "H. P." observes, it needs plenty of head room, also a well-drained rooting medium, this to consist of equal parts rough peat and loam, with a free addition of sandstone in pieces the size of walnuts, charcoal and silver sand, as the plant when in a vigorous state needs a good amount of root moisture. When pot-bound and restricted to roof space, the foliage soon loses its colour and is very liable to become infested with insects. —NORWICH.

GREENHOUSE HEATHS.

KINDLY give me the fullest instructions as to the right treatment of greenhouse Heath. —M. ARDEN, Fulbrook, Barton-under-Needwood.

. In order to attain the best possible success in the culture of greenhouse Heaths, the following points need to be noted, viz., houses suitable for their culture, soil in which to pot them, and the potting and watering of them in a careful manner at all times.

HOUSES, &c.—These should, if possible, be span-roofed, not too lofty, but well ventilated. The old-fashioned houses, now fast becoming extinct, used to suit Heaths well, but there is no reason why the lighter and better ventilated ones now built should not suit them much better. What is now needed is a light shading when in flower, the arrangement for which should not be a difficult matter, No. 3 netting being ample for the purpose. Span-roofed houses are preferable, for the simple reason that the plants can be kept all round alike, whilst damp, always an enemy to these Heaths during the winter, can be dispersed much more readily. The plants should be so arranged as to nearly touch the glass, for the nearer they are so placed the more sturdy will be the growth—a most essential point in their cultivation. Sufficient heating power should be provided to keep out frost at all times, but without having to resort to excessive fire-heat, which, on the other hand, will exhaust the atmospheric moisture too much, making it harsh and dry. During frosty weather never aim at keeping Heaths at all warm, for so long as the temperature is maintained just a degree or two above freezing point no harm will come to the plants. This, of course, is the night or minimum standard, whilst 40° may be taken as that for the daytime. At other times when there is no frost do not employ any fire-heat at night, but a little during the day when damp and dull will be beneficial, causing greater buoyancy in the atmosphere. At other seasons ventilate freely both by night and by day. Let the ventilation be done in a rational manner during a period of easterly winds. Damp down the floors and between the plants after a warm, sunny, or otherwise parching day, but not

during damp or dull weather. Mildew is the one enemy of Heaths more likely to do harm; let it therefore be looked after very closely. Plants of dense growth, such, for instance, as the *ventricosa* and *vestita* sections, and *Cavendishi* and *hyemalis*, are most disposed to foster it. Sulphur is the best remedy, applied by means of a sulphur puff, or by a syringe if the plant be large and very dense.

SOIL AND POTTING.—The soil for Heaths is peat and sand only when the former is of the suitable kind. The peat best adapted to Heaths is that which is when handled of a harsh, hard character, having in it traces of the roots of hardy Heaths. This peat can scarcely ever be had very thick, not half the thickness of that used for Ferns and Orchids. It is often cut (and supplied, too) in too thick turves, hence frequently there is waste as far as the Heaths are concerned; the lower or under part is often void of fibre, therefore not fit for the purpose at all. In colour the best Heath peat is quite dark. Should the peat be lighter in character, with the possibility of becoming sour sooner, it is better to add the faintest possible dash of fibrous sandy loam with a small amount of nutty charcoal or finely-broken crocks. Do not break the soil up too finely, but rather keep it coarse, for so long as it can be worked down properly around the ball it is quite fine enough. Pot thoroughly well and quite firmly. Take pains in respect to this, and a deal will be gained by it afterwards. Use sand rather more freely than with most plants, bearing in mind that the potting is permanent. Only give what is termed "one shift," which will allow of nearly 1 inch all around the ball. Keep the crown of the plant slightly elevated rather than otherwise, finishing off the surface quite firmly. The better time to repot Heaths is after flowering, this allowing in most cases a sufficient time for the plants to become partially re-established before winter sets in. Late summer kinds may, on the other hand, be left until the following spring before being repotted. See that the condition of the soil and



Narcissus Santa Maria. From a photograph sent by Messrs. Pearson and Sons.

however, can be secured under pot treatment is fully proved by the splendid specimens sometimes exhibited at the various exhibitions. At Shrewsbury, grand, healthy plants are annually shown, the white one in particular being very telling. Some years ago a fine plant was on view in the Victoria Nurseries, Holloway, bearing no less than 400 blooms. I confess I did not succeed thoroughly with it in pots so long as I gave it a perfectly cool temperature all the year round, but found no difficulty at all after giving it an intermediate heat during the growing season. My greatest success was with a plant grown in an early lean-to Peach house, the pot being stood on a thick plank resting on the hot-water pipes close to the front lights, the roots being thus under the influence of a gentle bottom-heat. After repotting in November in a compost of fibrous yellow loam and peat in equal parts, to which were added liberally small lumps of sandstone and a sprinkling of charcoal, the plant was introduced into warmth towards the end of the month, the temperature being gradually raised from 45° in November till it reached 65° in March and April. The slight bottom-heat soon induced, besides ordinary growths which started from the previous year's wood, strong succulent shoots to push up through the soil. These as well as the smaller growths were tied to strings fixed some 18 inches below the roof glass, up which they rapidly climbed, until in some instances they reached a length of 12 feet, the leaves on the stronger growths being nearly as large as a man's hand and dark and leathery. A slight roof shading was given for a few hours only in the hottest part of the day, and the foliage freely syringed morning and afternoon, the roots being assisted frequently with diluted liquid manure. Growth usually ceased in May, and there were quickly formed from the base of almost every leaf dense clusters of bloom, as many as eight blooms in each, these being when fully developed extra large and of good colour. In June the growths were taken down and carefully distributed over a balloon trellis, the plant, after being subjected to cool airy house temperature for a time, being stood in the front hall of the mansion, where it was much admired. I have seen the white and red varieties planted out



Narcissus Mrs. Thompson. From a photograph sent by Messrs. Pearson and Sons.

that of the ball of the plant nearly correspond as regards moisture.

WATERING, &c.—Give a thorough watering a day or so after repotting, and afterwards watch the condition of the plants for a time quite closely. As a rule it may be accepted that

Heaths are more frequently ruined by drought at the roots than by excess of water. It must not be inferred from this that a Heath is an aquatic; far from it; but if the fine hair-like roots become parched it frequently means their death. Sounding the pots with the knuckles is the best test as regards watering. When once a grower has mastered the art of watering Heaths, he has accomplished the most difficult part of their culture. Give sufficient water to penetrate the ball, watching the condition of the plants as the inspection and watering are being done. Rain water is much the best, and it will pay to store this for Heaths. Special care is needed in treating Heaths in small pots, such, for instance, as those which are sold at this season of the year by thousands. These are more often than not quite root-bound, and are in consequence very liable to suffer from drought. The following kinds are cases in point, being what may be termed gross feeders, viz.: Cavendishi, hyemalis, and Wilmoreana, as well as the ventricosa section. On the other hand, the hard-wooded kinds (all Heaths are termed hard-wooded, but some possess a slower growth, which in its turn is more woody and hard) do not absorb so much water. These latter are the more difficult to grow, such, for instance, as the tricolor section, Massoni major, Paxtoni, McNabiana, retorta major, aristata major, &c., which are amongst the finest of all greenhouse plants that can possibly be selected.

In commencing the culture of greenhouse Heaths, the advice of an old grower is to begin with the softer-wooded kinds, as hyemalis, gracilis, Cavendishi, Wilmoreana, Spenceriana, mammosa, and cerinthoides. Then afterwards start upon the harder-wooded varieties when confidence and experience have been gained. It should be stated that Heaths may be stood out of doors during the summer with advantage in all but the most exposed situations.—PLANTSMAN.

TREE CARNATIONS.

My experience is that in dry seasons Tree Carnations do not make the progress they do when favoured with an average rainfall. In very wet summers if great care is not exercised with the watering-pot and the plants at times even laid on their side, the foliage, owing to continued root-saturation, is sure to become a prey to the yellows, and many collapses have to be recorded. On the other hand, when the atmosphere is parched for weeks together, some varieties, Miss Joliffe in particular, are liable to take on a sickly bluish hue, and these, if even they survive till housing time arrives, are almost sure to go off during the winter. In trying seasons the syringe ought to be freely plied amongst the plants, and the bed of ashes on which they stand frequently well moistened at eventide. This treatment should be continued throughout the autumn, unless night dews are frequent. These are a great help to Tree Carnations, and often assist the plants to grow out of any weakness or temporary check they may have sustained from attacks of aphids. In hot, dry summers aphids is usually more troublesome, and if this pest is not speedily eradicated, growth will soon practically come to a standstill; and if once the leading growths assume that yellowish cast which Carnation growers so much dislike, the earliest blooms will either be deformed or poor in quality. Some growers are apt to be in too great a hurry in moving the plants into their winter quarters, especially should a few frosts occur, but if these are not more than a few degrees and the roots are not in a sodden condition from heavy rains, they will be all the better in the open till, say, the middle of October. The nearer the plants are placed to the roof glass the better, and it is very important that they should have a syringing morning and evening, sprinkling the floor and stage as

well, in order that no check may be given from a sudden change of quarters. The house should be mildly fumigated two evenings in succession directly housing is completed, after which all air possible should be admitted night and day till frost arrives, no fire-heat being used unless the night temperature is likely to fall below 40°. Coddling is ruinous. C.

SALVIA SPLENDENS GRANDIFLORA.

This is one of the most showy flowering plants we have at this season of the year. Unfortunately, the flowers drop when subject to a change of temperature, but in the conservatory the same plants keep up a bright display for a considerable time, and quite large specimens may be grown from cuttings struck in April. Where smaller plants are desired, the cuttings may be put in at any time up to the end of June. It may be grown in any ordinary soil and gives little trouble either in propagating or growing on. The greatest difficulty lies in keeping some healthy stock through the winter. If only a few plants are kept and properly cared for, better results will be obtained than keeping a large number and putting them in an unsuitable position. After cutting the flower-stems off, the plants should be placed in a light open position in an intermediate house, taking care that they are kept free from red spider and other insects. Some cuttings may be put in early in the year, and if potted on as soon as ready they will soon give healthy cuttings and the old stock can be discarded. During the summer the plants will do well out of doors or in a cold frame. If plenty of room is given, no stopping will be necessary, as the plants will branch out naturally. Being subject to the attacks of red spider, the syringe must be used freely. One great advantage in propagating from healthy young shoots late in the season is that they are not so liable to get overrun with insects. Although this Salvia will do well out of doors during hot weather, it will show the effects of the first cold nights, and should therefore be housed not later than the end of August. As soon as flowering commences, liquid or artificial manure may be used freely. Salvia Bethellii and S. Hoveyi are good companions to the above, and deserve more attention than they often get. The bright blue S. Butcheri is also a very useful plant. F. H.

USEFUL WINTER PLANTS.

The work of potting up and housing the various subjects useful for winter work, as Salvias, Eupatoriums, Bouvardias and Solanums, is now completed, and they all promise a capital display. I have planted all these out during the summer months for several years, and although the result, perhaps, is no better than that obtained from pot culture throughout, the plants always do remarkably well, and a considerable saving is effected in the way of labour in watering, especially if the summer prove hot and dry. They are planted in shallow trenches, allowing sufficient room to develop into nice bushy stuff, and, beyond one good soaking and a mulch, get no other attention until the time comes to cut round them preparatory to lifting. One or two of the scarlet Salvias, of which more plants were put out than are required for potting, remain in the trenches, and having escaped the frost are flowering finely. They are grand autumn flowers, and very effective for occasional dinner-table work. I remember a row some years ago backing up some finely-flowered plants of Bouvardia Humboldtii corymbiflora, and the effect was very fine. With me this Bouvardia is very uncertain, sometimes developing into fine bushes and flowering freely. In other seasons the growth is ragged and irregular and the heads of flower few and far between. Whilst on the subject of failures I may note that another grand winter-flowering plant, Lasiandra macrantha, is not a success with me if planted out. I have seen the system advocated, and have tried a small batch

on more than one occasion with other things, but they never did well. Two or three varieties of late Chrysanthemums are always included in the list of planted-out stuff. They make nice bushes and furnish a lot of cut bloom. There are doubtless many varieties suitable for the purpose. I rely chiefly on L. Canning and Golden Dart. Pots of sufficient size not being to hand, I have this season placed this batch of Chrysanthemums along the back wall of the Peach house. A 9-inch board on edge was run along parallel with the wall and about 12 inches away, with just a few stakes on the outer side to keep it up. The Chrysanthemums were then placed inside the board and soil packed tightly about them. Such a batch of Chrysanthemums will be found very useful towards the end of the year, especially in those places where there is little opportunity of producing a quantity of forced flowers. The weather experienced through the summer and early autumn was very favourable to a firm, short-jointed growth on winter-flowering Pelargoniums, and they are now showing a grand lot of bloom. If material for cutting as well as a display is required, the doubles are much the more serviceable. E. BURRELL.

Claremont.

NOTES AND QUESTIONS.—STOVE.

Pelargonium Souvenir de Prince Albert.

—On page 277 mention is made of an Ivy-leaved Pelargonium under the above name, which, I think, must be intended for Souvenir de Charles Turner, as the other is quite unknown to me, and I fail to find it in any list or catalogue available. If Souvenir de Charles Turner is the variety intended, I can fully confirm the favourable opinions expressed by "H. R."—H. P.

Swainsonia galegifolia alba.—Like "E. M."

(p. 258), I can strongly recommend planting this out in summer. I recently saw fine plants in this condition at Streatham Hall, Exeter. Mr. Franklin told me this was his usual custom. As the days got cold these were potted up and removed into a cold house, where they continued to bloom a long time. This method differs from that adopted at Didlington Hall, in Norfolk, where the plants are cut back in spring, shaken out, and potted when starting into growth. About June these are placed in the open. I have seen plants full of bloom in December at this place.—DORSET.

SEPTEMBER IN SOUTH DEVON.

DURING the past month rain to the amount of 0.80 of an inch has fallen on 6 days against 3.09 inches on 15 days during the corresponding month of 1897, the average for September being 2.42 inches. In the past nine months of the present year 13.96 inches of rain have fallen on 96 days, against 26.93 inches on 132 days during the similar period in 1897, the average for the nine months being 22.83 inches. We are thus at the present time 8.87 inches below our average rainfall for the year, with only three months left to make up the remaining 20 odd inches between the 13.96 inches already fallen and the yearly average. The month has been a remarkably bright one, 213 hours 25 minutes of sunshine having been registered, or 55 hours 40 minutes in excess of the month's average of 157 hours 45 minutes, while the amount recorded for September, 1897, was 156 hours 35 minutes. The large amount of sunshine in the past month has raised the record for the first nine months of the year considerably above the average, which is 1479 hours 30 minutes, the present year's sunshine aggregating 213 hours 25 minutes, while that for the corresponding period of 1897 amounted to 1495 hours 35 minutes. During the past September there was not a single sunless day. The mean temperature of 61.8° is high for the month, the average being 57.9°, and the record for September, 1897, 56.1°. The highest sun temperature of the month was 119.8° on the 15th, and the highest screen reading 76.3° on the 8th. The lowest screen temperature was 46.2° on the 29th, and the lowest grass reading 41.3° on the same date. The month has been very windless, almost

as much so as the record month of five years, September, 1895, when only 3175 miles of horizontal movement was recorded. The total movement of the wind has been 3827 miles, against 6291 miles in the corresponding month of last year. The highest daily run was 362 miles on the 30th, and the greatest hourly velocity of 25 miles was attained between the hours of 6 and 7 a.m. on the same date. The wind was south to west on eighteen days and north to east on the remaining twelve, though on some days there was so little wind movement that it was practically immeasurable. The average amount of ozone in the air during the month has been 51 per cent. of the possible, running from 80 per cent. on three days during south-westerly winds down to zero on days with an east wind. Notwithstanding the extreme dryness of the month, there is as yet but little sign of autumn in the foliage of the trees. The Chestnut that in 1897 was showing traces of crimson and gold before August had departed is this year of a uniform green tint on the last day of September. The swallows and martins are still numerous, the latter on still afternoons soaring at such an altitude, that those unacquainted with their diverse modes of flight might easily mistake them for the swifts, which have long since deserted our shores.

In the garden, *Achillea ptarmica* fl. pl. The Pearl has continued to blossom, and the light blue of *Agathaea celestis* has been conspicuous in the border, while, until the closing week of the month, the white Japanese *Anemone Honorine Jobert*, in many situations over 5 feet in height, has been flowering profusely, and in the wild garden the *Acanthus* still rears its tall bloom-rods. The Starworts have been particularly effective during the past month, since no rough winds have arisen to mar the tall, graceful flower-sprays, although the dry weather has, perhaps, curtailed the beauty of the individual blossoms. *Aster Amellus bessarabicus*, which is one of the most lasting of the Starworts, often being in bloom for close upon three months, has been very attractive; indeed, this, the earliest, and *A. grandiflorus*, the latest of the Michaelmas Daisies, exceed in size of flower all other varieties. Three white varieties have bloomed in quick succession, *A. Novi-Belgii* Harpur-Crewe leading the way, followed by *A. N.-B. niveus*, and a few days later by *A. polyphyllus*. *A. puniceus pulcherrimus*, lavender-white, has had its tall sprays thickly studded with flowers—so thickly, indeed, as in some cases to impart a slightly heavy appearance to the flowering shoots. *A. N.-B. Robert Parker* holds the palm as the most elegant in growth of all the larger flowered Asters, the blossoms, too, with their pale mauve tint, being large and shapely and not too thickly set upon the graceful sprays. Long flower-stems of this *Aster*, loosely arranged, form an exquisite indoor decoration. *A. N.-B. Pluto* is a good dark-flowered variety, the blossoms being of a purple-blue. Of the smaller flowered kinds, *A. cordifolius* and *A. cordifolius elegans*, the former white and the latter pale lilac, both became very ornamental by the close of the month, when *A. ericoides*, with its numberless minute Daisy-like blooms, commenced to approach perfection. The red *A. Novæ-Angliæ ruber* and the purple *A. N.-A. Melpomene* have also been blossoming, but Starworts of this section do not possess the decorative qualities, either for garden work or as cut flowers, that the *Novi-Belgii* section exhibits. The dwarf *A. dumosus* has been a clump of bloom only from 6 inches to 9 inches high, and the old cottage favourite, *A. diffusus horizontalis*, has produced its countless small maroon and white flowers. Neither of the two last-named varieties are worthy of culture except in collections or for the sake of associations, their places being easily filled with worthier and showier subjects. *Aster* (*Chrysocoma*) *Linowsyris* has produced its bright yellow inflorescence and amply justified its English name of Goldilocks. The tuberous *Begonias*, unmindful of the drought, have formed a glorious sheet of vivid colour, edged with a

salmon-pink hanging fringe of Ivy-leaved *Pelargonium* *Mme. Crousse*, and backed, towards the conclusion of the month, by a deep row of pale pink *Belladonna Lilies*. Varieties of *Campanula carpatia* have been in good bloom in many gardens, and the large-flowered *Cannas* are still bright, while *C. Ehmanni iridiflora* is producing spike after spike of drooping rose-pink blossoms. The *Marguerite Carnations* are largely used in gardens now, and pretty pictures they make when grown in masses, the dense blue-grey foliage forming a base of soft colouring, to which the many-tinted blossoms act as accessories without disturbing the broad colour-effect of the setting. The *Valerian* (*Centranthus ruber*), in its three colours, pink, red, and white, is to be seen blossoming on the railway embankments and on cliff ledges. The early-flowering *Chrysanthemums* are in bloom, and the Autumn *Crocus* (*Colchicum autumnale*) has produced its pale purple chalcies. Autumn-sown plants of *Cosmos bipinnatus* have been in bloom since the end of the summer, and those sown and brought on under glass have also been flowering for some time, but those sown in the open have not as yet expanded a blossom. *Crinum capense* has been blooming well, several large-flowered umbels being in perfection at the same time on a bed in the vicinity. *Cactus Dahlias* have been exceedingly decorative throughout the month, some especially telling flowers being *Arachne*, cream, shaded red; *Charles Woodbridge*, bright crimson; *Daffodil*, pale yellow, very good; *Esmeralda*, orange-scarlet; *Harmony*, apricot; *Island Queen*, lilac; *Lucerne*, orange-red and yellow; *Magnificent*, fawn; and *Mary Service*, salmon. Here and there a blue flower-spike of *Delphinium* shows, and a few large golden stars expand week by week on clumps of *Doronicum plantagineum excelsum* Harpur-Crewe, while *Dianthus Napoleon III.* was still flowering brightly at the commencement of the month. *Erigeron speciosus*, after a prolonged season of bloom, has produced September blossoms, and the little Mexican Daisy (*E. mucronatus*) is, if anything, a still more persistent bloomer, having flowered steadily on from the early spring. The Coral Tree (*Erythrina crista-galli*) was a fine sight early in the month, with its long spikes of crimson blossoms, two or three of which were still bright at the commencement of October. *Fuchsia Riccartoni* is to be met with in huge bushes, crimson with bloom, in many a cottage garden, fine specimens being especially common at the mouth of the river Dart. *Gaillardias* are still bearing their blossoms of crimson and gold, and *Gazanias* are not yet flowerless, while the Cape Hyacinth (*Galtonia candicans*) has borne many a late spike of ivory bells, and the double scarlet *Geum* makes at intervals a bright spot in the border. Yellow is a prevailing tint in the autumn garden, the Golden Rod (*Solidago ambigua*) holding its own and flowering profusely in out-of-the-way corners of the wild garden, while the perennial Sunflowers throw a yellow glow over the borders. *Helianthus rigidus* Miss Mellish and *H. latiflorus* have both been very decorative with their bright golden blossoms, and a long group of *H. giganteus*, whose tall heads are fringed with a galaxy of pale stars, stands out well against the green background of the distant Elms. Many of the annual Sunflowers are still beautiful in September, though the earliest brown discs are already rayless, and where they are allowed to remain on the plants droop lower and lower beneath the increasing weight of the seeds. In warm corners *Hedychium Gardnerianum* has perfected its lemon-tinted spikes of fragrant blossoms, and in some gardens the Everlasting Flowers (*Helichrysum*) with their bright artificiality are blooming freely. In the favoured climate of South Devon the *Hydrangeas* assume gigantic proportions, and may be seen in all colours from bright pink to Forget-me-not blue, edging shrubberies, growing by the great boles of Elms and other deciduous trees by winding drives, or spreading billows of massive blooms beneath the latticed cottage windows. *Hypericum Moserianum* has also been in flower, and the scarlet heads of the *Kniphofias*

have associated well with the gold of the Sunflowers. For brilliancy, however, there is nothing to compare with the vivid colouring of *Lobelia fulgens*, whose flower-spikes last in beauty for many weeks, and will still be bright when October has well-nigh waned. The deep pink blossoms of *L. rosea* are also pleasing in colour, but are killed by the glowing hue of the last-mentioned variety if the two chance to be growing in proximity to one another. Marigolds are here and there still in bloom, and the double variety of *Matricaria inodora*, with its Fennel-like foliage, is white with blossom, while early in the month the orange-red flower-scapes of the *Montbretias* were in evidence. The sweet-scented Tobacco plant (*Nicotiana affinis*) has flowered with undiminished beauty and fragrance, and the pale yellow blossoms of the giant Evening Primrose (*Oenothera Lamarckiana*) have expanded their frail petals in the background of borders and in the wild garden.

The Tufted Pansies have continued blossoming in some situations, but the dry weather has in many cases rendered them flowerless. Paris Daisies, where the old flowers have been removed, are now in bloom, and the Ivy-leaved *Pelargonium* *Mme. Crousse* and *Souvenir de Charles Turner* have been objects of beauty throughout the entire month, while the *Pentstemons* have been blossoming freely. *Phygelius capensis* has been a striking plant with its branching racemes of scarlet blossoms, and the Winter Cherries (*Physalis Alkekengi* and *P. Franchetti*) became conspicuous towards the end of the month as the calyces assumed their bright orange-red hue. Some of those borne by *P. Franchetti* are particularly large, one that I measured the other day being 9 inches in circumference; in spite of this, however, it is doubtful if the older variety is not to be preferred for indoor decoration. In the early part of September the herbaceous *Phloxes* were bright in gardens not too dried up, while occasional blooms were produced by members of the Poppy family. *Plumbago Larpentæ* flowered profusely, covering rockery and border with the soft blue of its blossoms. *Polygonum capitatum* has also been in bloom, and *Pyrethrum uliginosum* has produced on its tall stems a host of narrow-rayed, white star flowers, much in request for floral arrangements in tall vases. The Tea Roses have been blooming uninterruptedly throughout the month, and have yielded many a bowlful of fragrant suavely-coloured blossoms. The white *Macartney Rose* has also flowered abundantly, daily expanding fresh blooms charming in the simplicity of their single petals and golden-stamened centre, while their faint perfume, resembling that of a ripe Pear, is very pleasing. *Rudbeckia Newmanii* has been and still is a handsome sight, a 3-foot wide clump being literally covered with black-centred, orange stars. The lasting qualities of these blossoms are remarkable, the petals being of such consistency that they withstand even heavy rains without injury. *R. purpurea* was in flower during the earlier part of the month, but does not approach *R. Newmanii* in the abundance of flowers produced. The deep Gitan-blue of *Salvia patens* has been conspicuous in the border, and is extremely effective in conjunction with the bright vermilion of *Lobelia fulgens*. Other *Salvias* in bloom are *S. coccinea* and *S. fulgens*, both of the latter often living through the winter in South Devon. Spring-sown plants of *Scabiosa caucasica* have borne their lovely pale blue blossoms, and both *Sedum Sieboldi* and *Stokesia cyanea* commenced to bloom in mid-September, while the Sweet Peas, where they have not been allowed to seed, are still bearing their softly coloured blossoms. *Tradescantia virginica* has exhibited the deep purple of its blossoms in the border, and towards the end of the month I saw at Kingswear, growing in a garden overlooking the entrance to the river Dart, *Tuberose*s in flower that were the produce of bulbs planted in the open border in the late spring, and which had had no protection from

the time of their planting. As a rule, Tuberoses that are flowered in the open border are started comparatively early under glass and planted out when tolerable-sized plants in the early summer. *Zauschneria californica*, which grows like a weed in most South Devon gardens, is again bright with its vivid scarlet flowers. Many annuals still brighten the garden with their varied hues, the scarlet Zinnias being most effective when massed in considerable quantities, while the yellow and white of Sweet Sultans, the blue of Cornflowers, the orange and gold of Eschscholtzias, and the shot-silk lustre of the velvet-petalled *Salpiglossis* have combined to enhance September's floral attractions. Of

SHRUBS,

Abutilon vexillarium has kept up a succession of crimson and yellow blossoms on its slender arching shoots, and *Aralia spinosa* has produced its ivory-white inflorescence. In cases where this *Aralia* is grown as a standard, with a straight stem some 10 feet or 15 feet in height before it is allowed to branch, its effect, with the large spreading leaves, is quite Palm-like, its appearance being especially attractive when the foliage is crowned with the long flower-clusters, which from a little distance have almost the appearance of parchment-coloured ostrich plumes. *Caryopteris mastacanthus*, generally treated as a greenhouse shrub, is now in flower, the colour of its blossoms being much similar to that of the blooms of *Agatheae colestis*. It has now lived out for two winters, but would doubtless be killed in a severe winter if not given protection. *Ceanothus Gloire de Versailles* is a delightful sight when large bushes are seen laden with their light blue flower-panicles, as they have been during the past September. Another attractive shrub that blossoms at much the same period is *Escallonia montevidensis*, whose white flower clusters have a wonderful fascination for the butterflies, which resort in numbers to quite small specimens. Late in the month I witnessed a pretty sight, fourteen red admirals having settled on the flowers of one bush, the velvety black and bright scarlet of the butterflies' wings contrasting delightfully with the *Escallonia's* white blossoms. Early in the month the pure white Rose of Sharon (*Hibiscus syriacus totus albus*) was in blossom, and the Venetian Sumach (*Rhus Cotinus*), with its iridescent clusters of purple-red inflorescence, was a picture of surprising beauty. This Sumach is not nearly so well known as it should be, its autumnal effect being unique and striking in the extreme. The Sea Buckthorn (*Hippophae rhamnoides*) towards the conclusion of September was responsible for a charming colour effect, the orange berries contrasting pleasingly with the grey-green of the foliage, while Yuccas of several varieties threw up great spires of bloom, *Y. gloriosa* in particular perfecting flower-spikes 4 feet and more in length. The great standard *Magnolia* continued to produce its fragrant white chalcies with undiminished prodigality, and during the past six years has never flowered so profusely as it has this season, many of the sprays being terminated with two instead of one bloom-bud and scarcely a single spray over the whole tree being flowerless. The month closed with scarce a sign of autumn in the colouring of the Virginian Creeper (*Ampelopsis hederacea*) or its clinging variety, *A. Veitchii*, but the seed vessels of *Clematis Vitalba* are already growing grey on tree and hedgerow. *Clematis graveolens* has been in bloom, as has *C. songarica*, which possesses flowers smaller than the former variety and of a rather paler shade of yellow. The seed vessels of *C. graveolens* have a pretty effect when seen against a dark background, and the plant is a rapid grower, soon covering a large space of wall. The Virgin's Bower (*C. flammula*) has produced its odorous flower-wreaths in profusion, and the purple of *C. Jackmani* is still apparent in places. *Convolvulus mauritanicus* has been blossoming, and the Passion Flower is displaying both flower and fruit simultaneously. The oval orange seed-pods hang amid the pale star flowers, while both are backed by the dark green of the leaves. A fine plant of *Plumbago capensis* which

has lived unharmed through two winters, planted against the face of a cliff in a sheltered position, is covered with blue flower-clusters through its 10 feet or so of height and breadth. This plant is in rude health and is growing in an exceptionally vigorous manner, its shoots being very different in appearance from the spindly growth generally made by these plants when given a position in the open in specially favoured localities.

The Flame Nasturtium (*Tropaeolum speciosum*) bore its brilliant scarlet flowers during the early portion of the month, its purple seed-berries being now beautiful. *T. tuberosum* has commenced to show its blooms of bright orange and red, and the Canary Creeper (*T. canariense*) has spread bright trails of gold over rock wall and trellis, while a variety of the scarlet *T. Lobbianum*, that passed through the winter uninjured, has covered the side of a small house with a sheet of glorious colour. *Solanum jasminoides* becomes more beautiful with each succeeding month. It is now, perhaps, at its best, and has been in bloom since April, and will to all appearance flower profusely throughout the whole of October. Undoubtedly this *Solanum* is the flowering creeper *par excellence* for the south-west of England.

There has been a moderate crop of Apples, but many varieties have borne unusually large fruit, bush trees of Bramley's Seedling, Peasgood's Nonsuch, Lord Derby, Bismarck, and Warner's King bearing a quantity of fruits each between 1 lb. and 1½ lbs. in weight. Cox's Pomona has produced very large and highly-coloured fruit, and Cox's Orange Pippin a fair crop, but mostly small-sized. Apples on the Paradise stock do not succeed well on this soil and make scarcely any growth, while those on the Crab have done excellently and have made fine growth, besides bearing well.

S. W. F.

KITCHEN GARDEN.

DWARF BEANS IN PITS IN AUTUMN.

I HAVE so far never been able to grow a profitable crop of Beans in what may be termed the mid-winter months, and provided a good plant is secured and flowers set, one may get a fair crop by sowing in September or the first week in October and growing on quickly. Few vegetables bear more quickly, and with good weather the plants set their crop before the dark days of December. Even in frames or pits one does not get full crops like those in the open, but Beans at the season named are valued in the kitchen. I fear we shall not have very much choice as regards the early winter vegetables, as, owing to the heat and drought, Cauliflowers and early Broccoli do not look at all promising, and there has been a great difficulty, delay also, in getting the winter vegetables planted, so that a supply of Beans will be valuable at the period named. No time must be lost in getting the plants up, and for this purpose I always use new seed. The seed is sown in 4½-inch pots filled with rich soil, as root-action must be rapid. Five to eight seeds are sown in each pot, these when up being thinned as may be found necessary. The pots are placed in Cucurbit houses over hot-water pipes to assist rapid germination, and in a few days are ready to move into another place. Of course a heated pit is necessary at this time of year, and if there is heat under the bed so much the better. Much is not required, but a little warmth helps to set and swell the pods. A great depth of soil is not required, 6 inches to 9 inches being ample, but this should be good. I use bonemeal with spent Mushroom soil if the loam is at all poor with a liberal addition of wood ashes or old mortar rubble. In heated pits or frames the growth is rapid, and when a fair set has been secured there is no trouble in getting the pods to swell, as food may be given freely in the shape of liquid manure or a quick-acting fertiliser. A liberal temperature with ample supplies of atmospheric moisture is needed from the start. The

pipes, however, should not be overheated, as if this is the case red spider will be troublesome. An early variety should be sown. Early Favourite, Syon House, and Sutton's Forcing I have found very good. G. WYTHES.

Imported Onions.—I have lately been surprised at the large quantities of Onions of the Giant Rocca type that have been hawked through the city of Norwich. The vendors are Frenchmen, and one of them stated that a shipload of Onions was brought to Yarmouth from France and then disposed of in the nearest East Anglian towns. The bulbs are by no means large, but splendidly ripened, and being strung on cord are shown off to advantage. They are offered at a cheap rate, and it is to me a wonder, after the cost of growing, shipping and vending has been defrayed, that it pays.—N.

Winter Kales.—I would advise those who have a large demand for spring vegetables to pay a little extra attention to the late-planted breadths, as these will give a supply at a time green vegetables are none too plentiful. In many gardens water is difficult to get, and the late plants that followed summer crops are feeling the effects of drought badly. I have placed litter over the roots to conserve the moisture given. Fortunately, I have been able to give an occasional supply of liquid manure, and the plants, though not at all gross, are of a good colour and repay for the extra attention given. I fear the early Cabbage will be none too good if the drought continues, so many plants going blind.—S. M.

Rosette Coleworts.—Acres of these are grown by market growers in the neighbourhood of London, but around most other large towns they do not seem to be much grown. Market growers would, however, find them answer well during the winter months, as they are most delicious after a few frosts. One sometimes sees them in private gardens in use in autumn when there is plenty of Cabbages, Marrows, and Beans still to be had, consequently they are of little value. This is due to sowing the seed at the wrong date. About the second week in July is a good time for sowing for the production of nice-hearted Coleworts during November and December, a second sowing being made for a batch for January cutting. I always plant a lot on plots from which two-year-old Strawberry plants have been cleared off. No digging is required, merely putting the plants in with a trowel.—J. C.

GARDEN FLORA.

PLATE 1193.

THE ALPINE STARWORTS.

(WITH A COLOURED PLATE OF *ASTER ALPINUS* AND VARS.)*

ASTER ALPINUS and the several varieties thereof are undoubtedly among the most valuable things in or near the rock garden. The value of any such plant, regarded of course from the point of view of effect, can have nothing whatever to do with its rarity or costliness. Rather should it be considered from the standpoint of easy culture. The alpine Starworts, all beautiful dwarf free-flowering subjects, require perhaps the least care of any plant in the open rock garden. It is here, indeed, that we note the value as well as the beauty of these plants, the varieties of which need no elaborate description whereby they may be recognised. In this respect the coloured plate in the present issue is so faithfully representative that detailed description is superfluous. Even were it otherwise, the plants generally are so well known that few who have a hardy plant garden will be

* Drawn for THE GARDEN by H. G. Moon in the Royal Gardens, Kew. Lithographed and printed by J. L. Goffart.

found without them. It so happens, however, that at times ease of culture acts to the disadvantage of the subject, and this is not altogether untrue in the present instance. Plants that are proverbially difficult to manage, be their value great or small, frequently receive every attention, while those that are hardy and enduring are allowed to take their chance. It is so with the alpine Asters figured to-day, for while among the most beautiful of early summer alpine, it is only rarely that we find them in the best condition. Despite the fact that these plants are recommended for the "rock garden or border," most of them are best suited in the former, provided they are well planted in good soil. Of some of them it is quite easy to form a patch 3 feet across in a season or two, yet for some reason or other these alpine Starworts are usually planted in single clumps. Nothing could possibly have a better effect early in the summer than broad masses of these showy subjects in good positions in the rock garden. Why they should not be so grown it is not easy to say, seeing the rich and varied display the large flower-heads give. One of the chief drawbacks, if not, indeed, the only one, is the fondness of slugs for certain varieties and in certain seasons and localities. In the rock garden, however, the plants are usually more free of this pest, and luckily so, as once slugs take to a clump they are so secure from observation as to be able to pursue their work of destruction undisturbed. The plants thrive best in good rich sandy loam about 15 inches deep and made quite firm. In light sandy soils that are usually dressed heavily with manure each year I have planted some hundreds of seedlings, that have made splendid tufts 6 inches to 8 inches across in a year, putting forth a display of blossoms quite surprising for the age of the plant. To some extent, of course, this freedom would be due to their being seedlings, though to some extent also to the rich, deeply-worked soil. Where large borders exist it is a good plan to raise seedlings freely and form edgings of them, at flowering time selecting a few of the best and most striking shades. In this way a strain of some excellence may soon be secured, though as a rule the proportion of poor weedy forms is very considerable.

The accompanying plate gives three of the most distinct of the cultivated forms, all of which are worth growing freely.

ASTER ALPINUS, which has been known nearly 250 years, is worth growing as an early spring bedding plant, flowering in May. Thus employed a very pretty effect may be secured from the numerous flower-heads and the varying tints of lilac and blue-purple seen in the ray florets. It is about 6 inches high. The white variety, growing about 6 inches high, is a pretty and useful kind, but open to considerable improvement, both in form and size. The pink variety is perhaps the most charming of all, the warm rosy pink hue being very pleasing. Indeed, in the rock garden at any season this shade would be welcome among the dwarf plants, and every attempt should be made to secure a good stock of this kind. The plant usually flowers in May and is known as *A. a. ruber* and *A. a. roseus*.

A. a. SUPERBUS is a large and showy kind and an improvement on the original; it is also generally bolder and stronger in growth. The most vigorous member of the group, however, is

A. a. SPECIOSUS, which will in good soil attain from 9 inches to 15 inches in height. In any position, however, its superiority may at once be seen, more particularly in the large and richly-coloured flower-heads, the latter of a clear violet-blue shade and nearly 4 inches across. This is a fine addition to this section and shows the value of raising seedlings of such things.

In their distinctive colours these plants can

only be reliably increased by division of the roots in the early spring. E. J.

THE WEEK'S WORK.

FRUIT HOUSES.

POT VINES.—Where pot Vines are depended upon for first early forcing no time should now be lost in doing what little pruning is required, such as cutting away any lateral growths or foreshortening the rods if too long, or if not quite ripened to the apex. After this work is done, dress all the wounds with styptic if at hand, or with painter's knotting, which is equally as effectual. Do not allow the Vines to become absolutely dry at the roots, nor, on the other hand, give them too much water. If it be doubted as to the canes being properly ripened, let the Vines be kept in a well-ventilated house where a little warmth in the pipes is available. This, however, should not be the case after the weather of the past four or five months. Do not think for one moment about retopping these Vines now; it will only end in failure in nearly every case if it be done. A selection of those most fit should be available for starting by the beginning of November. My own practice has been to start them steadily about November 9. Previous to starting the canes let them be dressed with an insecticide, not too strong, as a safeguard against such insect pests as red spider and thrips. It is to be hoped nothing worse in this way is in evidence. Mildew needs to be looked after also very closely. Young Vines raised this year from eyes may now be put away for the winter in a fairly sheltered spot, where the pots can be plunged in litter of some kind to protect the roots from frost. A semi-pruning can also be given them at the same time. It should be noted that no Vines in pots ought ever to be exposed to frost, otherwise the many fibrous roots around the sides will in all probability suffer. I remember such an instance happening on one occasion with Vines for forcing, the after results not being at all satisfactory. Take care of the labels on all young pot Vines where many kinds are on hand, otherwise when planting time comes round some confusion may occur.

ESTABLISHED VINES FOR EARLY FORCING.—Whether these be young canes planted out in the spring, being grown on to form fruiting rods for early forcing, or older Vines previously forced, the pruning should receive immediate attention. To have pruned early in the present month might have been better, perhaps, but such warm weather as we have had, if followed by rain, might have induced them to start too soon. If, however, the partial pruning previously advised was adopted, the final touch, if given now, will be quite in time, assuming that none are started before the date already given. Should they be young Vines, great care will be necessary to guard against exhaustion by bleeding, which these canes, if vigorous, are often predisposed to do. Do the pruning with discretion and run no risks, dressing the wounds as soon as dry. In dealing with older Vines, the pruning should be done in accordance with the circumstances or condition of the Vines in each case. I am no believer in the orthodox system of pruning every spur hard back to the old wood, leaving, perhaps, one or two buds to break when dealing with early-forced Vines. Old Vines in particular will resent this and often break weakly. Instead, therefore, of the close pruning, cut back to the most prominent eye or two! never mind if these be 6 inches or 8 inches from the old spur or last year's pruning point. We grow our Vines for the sake of fruit, not for appearance only; therefore there should be no hesitating to adopt any methods whereby we can accomplish the desired end. Everyone must have noted how well the topmost growths of old Vines will break when the rod is slightly extended; the same thing applies with equal force to the spurs lower down the rods. I strongly recommend this system of pruning for all early-

forced Vines, which are giving signs of having been too severely taxed. It may be asked, Why for early Vines and not others? The answer is, Because the first few leaves upon early-forced Vines, where these are aged, are not always so well developed as one could wish through the root-action being weakly or backward; hence the buds formed at their base are not so good as they should be. It may be urged against this practice that the Vines will become so unsightly, or, in other words, so unlike what one is accustomed to see. This may be so, but it is no valid reason against its adoption, nor is it any obstacle in the slightest degree. If any grower needs to inspect a case before being convinced of the soundness of it in practice, let such an one call and inspect the Vines so treated by Mr. Speed at Penrhyn Castle, and he will there see what he has accomplished. When any spurs so extended reach the top, cut them off and start fresh ones from the base. Vines that are kept for many years closely pruned often lose their natural vigour of growth, hence from this cause alone any system of extension is commendable. If anyone is not convinced of the soundness of this treatment, let him at least give it a trial upon one Vine, letting that one be even the weakest in the house.

AFTER PRUNING.—Let the first operation be that of a thorough cleansing of first the Vines themselves, if insects have given any trouble, and then of the woodwork, walls and pipes, at the same time looking after the state of the glass and putty. Let every nook and cranny be penetrated with hot water, as hot as it can be used comfortably for the hands, such an insecticide as Bentley's soluble paraffin oil is excellent as an addition, taking care not to use it beyond the prescribed strength, then even it will loosen the paint if not washed down immediately afterwards; a very slight amount of scrubbing will then complete the work of cleansing. After all this has been done, see to the state of the inside borders, examining them first as regards moisture, then adding a fresh top-dressing where the roots are upon the surface, in which case there will not be much that can be removed prior to its being applied, but should the top soil appear to be inert, then remove it down to the roots and add fresh in its place. If fresh soil has in the previous year been added, a light surface-dressing of cow manure will now be an excellent change. Then water all such borders thoroughly, more especially near hot-water pipes. Vines that are confined (or thought to be so) will often find a means of egress. To search for these wandering roots is not always expedient, but at any rate, when they are found to exist, they should, if possible, be stimulated in their good work. Outside borders should have received attention before now if in need of renewal, but if a top-dressing is all that is needed it should be applied at once. Here again the same advice applies as that already given. In addition, however, a covering afterwards is needed to conserve the warmth and to prevent the surface-soil from becoming frozen later on. Dry leaves from the Oak or Beech make a good covering, these being kept in position by some stable litter. Do not be led astray as to the state of the outside borders by any rains that may now fall, but make sure of their state by watering them thoroughly before being covered.

MIDSEASON VINERIES.—Vines from which all the fruit has been cut should at once have a partial pruning, removing, as previously advised, all the unripened wood first, and shortly afterwards a portion of the rest, so as to leave for the present and until the leaves fall about 1 foot or so on each spur. It should be borne in mind that it is advisable to retain the rest of the foliage, which, until it falls, has its proper functions to fulfil through the receding sap, which undoubtedly assists the latent buds at the base of the leaves. Vines on which a portion only of the crop is now left should have the rest of the bunches cut and afterwards bottled, so that the houses may be thoroughly ventilated, being pruned as previously advised. Any Vines which show indications of not having the wood well ripened should be

assisted by keeping the pipes warm, but never close the house at such times. Many vineries, no doubt, will now be filled with Chrysanthemums, possibly to the detriment of the Vines themselves, first by too early pruning, and then by being kept too warm, to suit some of the Chrysanthemums. These vineries ought rather to be called Chrysanthemum houses, in which Vines are grown as a catch-crop.

LATE VINERIES.—Vines which have a full crop still hanging (or nearly so) will, with the change of weather, need somewhat closer attention. The superfluous wood that is not ripened ought to be thinned out, as it only tends to foster more moisture near the bunches. The pipes should be warmed up every morning so as to thoroughly aerate the houses and dispel the moisture. Check the fires by midday so as to cool down to 50° at nightfall. Keep a close and constant watch for any signs of a berry decaying before it has time to contaminate those around it. **HORTUS.**

KITCHEN GARDEN.

GENERAL WORK.—Fortunately since my last note we have had some rain, and, though not enough to reach the roots of large plants, the much-needed moisture has freshened up the growing crops, and they are now looking much better. Now will be a good time to go through the various crops, giving the surface a light hoeing, as owing to watering and drought the surface is in a hard, baked condition. This will admit the moisture and promote growth. Many small weeds will now start, the soil being warm and the surface moist, so that land just cleared of crops will soon present an untidy appearance if the hoe is not kept going. There is a lot of work needing close attention. It is useless to leave the old Vegetable Marrow plants that are now fruitless. These, if cleared, will often give space for other plants. Old Pea and Bean sticks, if the crop has been cleared, should be removed, and though in some districts there may not have been much frost, I note in many places owing to drought the plants are over, many having ceased to bear. At this season of the year it will be a good plan to place on one side the stakes good enough for another year's work, getting rid of those that are decayed. Manures will soon be needed in quantity, and these will need turning to hasten decay. I find it necessary to assist fermentation by giving a liberal supply of liquid. This is a good outlet for liquid manure running to waste. Weeds and rubbish may be placed in bulk and mixed with a liberal quantity of lime to kill seeds. I use gas-lime in a fresh state. This mixture is very useful for digging in early in the year when any trenching is going on. Now is a suitable time to secure gravel for new paths or to improve old ones. All seed should be cleaned when ready, ripening being facilitated by hanging in a shed or drying under cover.

GREEN VEGETABLES.—The supply is none too plentiful in many parts of the country, owing to the heat and drought of the last few months, and it behoves growers who need a large supply to look well after those plants which turn in after Christmas. With the tender vegetables, such as Beans and Marrows, cleared, there will soon be more demand on the green crops, and to eke out these, if at all short, one may often make use of such things as Celery, Endive, and Cucumbers. Few vegetables if well cooked are superior to Celery, this forming a welcome addition to the supply from now to next April. Endive is not reliable after this month in the open ground unless protected, but with a short vegetable supply it will be well to preserve any breadths not needed for housing for salad by covering these with mats. Cucumbers make a delicious vegetable when boiled. In a short time there will be a good supply from forced vegetables. Seakale, in spite of the drought, has made a free growth this season, owing to the deep rooting of the plants, and where food in the shape of liquid manure was given there is no lack of good forcing roots. I have referred to the deficiency of the

autumn Cauliflower crop, and growers will do well to pay more attention to the early kinds of Broccoli by giving a quick-acting fertiliser to hasten the growth, as the plants are not nearly so strong as usual. This advice is not applicable to the later kinds, as it is not advisable to foster a soft growth with those needed to stand the winter. Autumn Cabbage will continue growing freely for some time, indeed, such kinds as St. John's Day and the Christmas Drumhead, having a dwarf growth with well-protected heads, are little influenced by autumn frosts. The Coleworts this season are a short crop, but with cooler nights I find the quality is improving, and late plantings, though small, will be valuable. To make up for loss of green vegetables in the early spring, it may be well to plant more Cabbage. I have made use of all plants large and small. The larger ones will be useful to cut as greens, in advance of the others.

LEeks.—These are making more headway, and will this year be very valuable. The early plants will now do with a little earthing up to blanch the stem. Unless, however, they are needed for present use, growth will be stronger by leaving them fully exposed. The Leek is one of our most reliable winter vegetables in a hard winter, and with plants in different sizes there is no difficulty in keeping up a supply well into May. Liquid manure will now be beneficial, and this given weekly will build up stout plants. Fish manure or guano is excellent for these plants if the same be well washed down to the roots. I grow a goodly number of plants on the surface, only using shallow drills. These are useful for soups and flavouring, and save the large ones, which are used for stewing. In heavy soils the food supply may be more varied, and with large plants fit for use it may be well to mould up earlier, as the soil is now in better condition than if too wet.

ONIONS.—Advantage should be taken of wet days to go through the store and remove decaying bulbs. Owing to other work needing attention I have not been able to give this crop the time needed, but if placed thinly in a cool place the bulbs will not have suffered, and in inclement weather it is a good plan to bunch or rope those required to be kept late. I do both, and all are suspended to the roof of a cool shed. Failing a roof, they keep well hung on a wall if given a turn occasionally, so that the air can circulate freely round them. Small bulbs may be kept for present use, and picklers should be placed thinly on shelves till needed for use. Any roots at all soft should not be stored, and those inclined to grow out should be used as required. Winter Onions this season made slow progress, but with moisture they are now growing freely. It will be advisable to give an occasional dressing of soot or a good fertiliser. I notice that mildew has attacked the best plants rather badly. I have checked it by dusting with dry wood ashes and a small portion of sulphur. I observe mildew this season is more troublesome than usual with most of the autumn-sown crops.

CHILIES, CAPSICUMS, AND AUBERGINES.—From Chilies and Capsicums, if there was no lack of moisture, there will this season have been a good return from plants in the open. Plants in the open will not be safe after this date, and it is useless to allow half-ripened pods to get frosted. I remove to a dry house, pulling the plants up by the roots. The pods then colour without shrivelling badly. Even the small green fruits are valuable for mixed pickles. Plants in cold frames will ripen their fruit more quickly if pulled up and suspended in a warm, dry house free of moisture. The Aubergines in the open did well this year, but are not safe now. I am gathering the fruits and placing them in a cool room. Plants in pots will continue to grow if given a shelf near the light and watered sparingly. Fruits on these will swell more freely if the shoots where at all gross are stopped. By having pot plants, a supply may be kept up till the end of the year, when many persons prefer them.

PARSLEY AND MINT.—Parsley was much affected in light soil in the latter part of the summer, and

the supply was none too plentiful. There will be a good supply if the seedlings sown for the autumn supply have been well fed. The plants delight in the cooler nights, with heavy dews, and if occasional supplies of soot or liquid manure can be given before frost checks growth, there will be a good return. I am much later than usual in lifting the plants for the winter, owing to growth being so much later. A goodly number of the plants intended for lifting will now be covered with frames in their growing quarters. Seedlings sown late will benefit by being thinned, and after doing the work it will be well to give the plants left a dressing of soot, doing the thinning in showery weather. Mint intended for forcing should now be cut over as close to the soil as possible, and a small portion placed under glass. I find boxes the best for a small, early lot. For a larger supply I place roots in front of a vinery or Peach house started next month, covering with light soil and watering freely. Plants in borders needed for early supplies in the open will now benefit by being cut over, cleaning the surface and giving a good dressing of light manure. **S. M.**

ORCHIDS.

PAPHINIAS.

THIS is a very interesting, if not particularly showy, genus, and one that is well worth growing. There are not many species, and these are all natives of different parts of South America. The plants should be grown in an intermediate house, and being of a rather small habit, it is important that the atmospheric conditions be kept as regular as possible, and no alternations of drought and moisture, cold draughts or insufficient air be allowed, for all these are very injurious to the tender foliage and apt to bring a plague of insects in their train. Paphinias, more than most Orchids, are subject to insect attacks; hence this care with the atmosphere; but this will not be sufficient of itself, and frequent fumigations and sponging will be necessary as well. The plants are epiphytal, and as the flower-racemes are mostly pendent, the smaller pans or shallow baskets make the best receptacles for them. The base of the pseudo-bulbs must not be buried; it is better to elevate them a little, but they need not be kept very high. The crocks for drainage may come up nearly to the rim, only a very thin compost being needed, and, as the roots of these Orchids are very liable to injury through the material being sour, it is best to add more hard material, as crocks and charcoal, than usual. When the very best of peat is used, the plants go on for a couple or even three seasons without any renewal, but this description of peat seems to be getting scarce, and many of the samples sent out by dealers are not first-rate by any means. Surface dressing is not, as a rule, advisable, or only to a limited extent, for when such a thin compost is used, most of the roots are naturally close to the surface and easily injured. When repotting, take every bit of sour material away, but if there are a few of the newer roots in the upper part of the compost healthy, let these remain, and they will save the plants from distress to a certain extent. A moist atmosphere is always essential, especially after repotting, and it is then that light dewings overhead are desirable.

PAPHINIA CRISTATA, the best known species, is a dwarf plant with pseudo-bulbs each about 1½ inches high, the leaves about 8 inches in length on strong plants. The flower-spikes bear about three flowers, the sepals and petals of which are yellowish shaded brown, the lip deep chocolate-purple and of very peculiar structure. There is

a variety of this species having pure white flowers with the exception of a yellow marking on the lip. Great care is necessary in shading the house for this species, for the leaves are so thin in texture that, although they like plenty of light, they are easily damaged by direct sunshine. It is a widely distributed plant naturally, not only on the mainland of South America, but also on some of the islands adjacent. It was first imported from Trinidad in 1834.

P. GRANDIS (*grandiflora*) is a very handsome species, also dwarf in habit, and bearing richly coloured flowers. These occur on three flowered spikes, and have the sepals and petals creamy white, with irregular bars and markings of deep chocolate-purple. The lip is yellowish and dark purple, the blade being covered with greenish white hairs. This is occasionally imported from Jamaica and different parts of South America, the first occasion of its flowering in England being in 1883.

P. RUGOSA is a good deal like *P. cristata* in habit, and is an uncommon species discovered in New Grenada in 1876, but not introduced to this country until a few years later. It bears pendent scapes, the individual blossoms being about 4 inches across, pure white, with spots varying in colour from bright red to dull purple. The lip is reddish purple, with a tuft of white hairs in front. This also requires a rather dense shade and more warmth than any other kind.

Cattleya Gaskelliana picta.—A very fine form of this useful *Cattleya* under this name is now in flower. The blossoms are large, of a pretty rose on the sepals and petals, the lip having a finely-coloured blotch almost as deep as in the best varieties of *C. Trianae*, which it somewhat resembles. The plant is of strong, vigorous habit, and at first sight with its broad foliage looks a good deal like *C. Warneri*. The plant was purchased at a sale in the neighbourhood some two years ago, and missed flowering last season.

Odontoglossum grande superbum.—This fine variety well deserves its name, the blossoms being very large and brightly coloured, and produced rather earlier in the season than those of the type. A fine plant of it opened its blossoms on September 20, but this is not earlier than usual. There is little difference in this and the type regarding the disposition of the colouring, but it is like a very large edition of it, and all the segments are broad and of great substance. It is a species that cannot be too highly recommended to gardeners or amateur growers.—H.

Cattleya Schofieldiana.—This is a useful and pretty *Cattleya*, and I have noted it in flower in several collections. These sepals and petals are yellow, spotted with crimson, the downy lip rich purple, fading to white. It must be as strongly grown as possible during the earlier part of the season, large plants requiring good root room. The flowers appear on the apex of the growth, and when these are over a lowering of the temperature and rather less moisture serve to keep the eyes dormant at the base of the stem-like bulbs. The usual *Cattleya* house temperature suits it well, and the compost—peat and Moss—must be rough and well aerated.—H.

Cypripedium Ashburtoniae.—Though one of the oldest of hybrid kinds, this is still a useful and fine plant that one cannot well have too many of. The better varieties are well worthy of extended culture, such kinds as *C. A. expansum*, with its immense dorsal sepal, or *C. A. majus*, one of the most healthy-growing *Cypripediums* in existence, being far before many of the newer and very expensive species and hybrids. It is a cross between *C. insigne* and *C. barbatum*, and was first raised by Mr. Cross when gardener at Melchet. It does well in the ordinary plant stove or in an intermediate Orchid house treated as advised for *Cypripediums* generally.

Pleione lagenaria.—The earlier plants of this useful species are already in flower, and very

bright and pretty at this dull season. The largest flowers are each 3 inches across, rosy lilac on the sepals and petals, the lip marked with rich purple. In a house kept a little warmer than the *Odontoglossum* house proper this species thrives well, and when in bloom is arranged with small Ferns, as its own foliage falls as the flowers open. It blooms from the base of the bulb and should be repotted directly the blossoms are over, reserving only so much of the old roots as is necessary to hold the pseudo-bulbs in position. Peat, loam and chopped Sphagnum Moss are the best compost.

Vanda tricolor planilabris.—The better varieties of these large-growing *Vandas* are very beautiful plants, and this is a very pleasing form. The colour of the sepals and petals is variable, but it is usually of a yellow tint, more or less heavily spotted with reddish-brown. A large plant recently noted with two fine flower-spikes was very beautiful, each of the spikes carrying a dozen flowers. The plant is easily cultivated in an intermediate house, and should be given large pots or baskets, so that the long air roots may find their way eventually to the compost. The best time to repot is in early spring, keeping the plants a little closer and warmer afterwards, and watering with care until new roots are formed.

Mormodes buccinator.—I think it would be very difficult to name an Orchid with a greater variety of colour in it than is present in this pretty species. Not only is the number very large, but the colours are beautifully contrasted, making a most interesting flower when carefully looked into. The spikes grow erect from the base of the rough-looking pseudo-bulbs, are about a foot in height and many-flowered, the ground colour of the sepals being yellowish with crimson spots, the lip a combination of green and white and of the peculiar form seen in this genus. Its culture is simple, a light position in a moist, warm house suiting it well as long as it is growing, keeping the roots well supplied with water. It likes a complete rest after the leaves have fallen, and must then be kept quite dry.—H. R.

Oncidium flexuosum.—None of the branching-spiked species of yellow-flowered *Oncidiums*, beautiful though many of them are, can compare with this grand old species for cutting. The contour of the spikes is more graceful than that of any kind I know, even the small side branches having an elegant appearance, only partly shared by such as *O. pulvinatum* and similar kinds. The culture is simple; the plant is cheap and plentiful, and as it will grow and flower profusely in a vinery or ordinary plant stove, it ought to be grown in every garden. I saw it used very effectively at a local show not many weeks since. The lower part of an epergne and several small specimen glasses were dressed with *Anthurium Andreanum*, and the *Oncidium* was used with good effect among the spathes, standing well above them and giving all a light and airy effect that could not be had by any other means. If I were tied to a dozen varieties of Orchids useful for cutting, this beautiful old *Oncidium* would certainly be one of them.—H.

Phalænopsis violacea.—It would be difficult to name a more generally useful yet beautiful Moth Orchid than this, and the fact was strongly brought to my notice when visiting a neighbouring collection recently. Here was a nice batch of the species imported a few years since, and among the plants in flower was considerable variation, one plant coming very near the rare and lovely albino form, *P. violacea alba*, so seldom seen. Not that this is any more beautiful than a good form of the typical plant, for the pretty violet-purple tint on the lower sepals and lip gives life and brightness to the flower, and when a good spike is seen the effect is very fine. Those who are in the habit of exhibiting groups of stove and greenhouse plants often find a difficulty in getting enough Orchids to give the group that character which only these plants can

impart, and this species may well be recommended to such, its bright and telling appearance being a great help at this season. It is not difficult of cultivation as *Phalænopsis* go, and the treatment advised for the genus as a whole will suit it admirably.

Burlingtonia granadensis.—This is distinct in habit and a pretty, small-flowered kind, the racemes bearing about half a dozen white flowers stained on the lip with yellow. These are pendent, and when well flowered the plants have a very pretty appearance with the racemes hanging round the baskets or pans in which they are grown. These form more suitable receptacles for them than pots on the stage, as only a little compost, and that of good quality, is needed. The cool end of the *Cattleya* house suits it well, and the atmospheric moisture should be kept as regular and constant as possible, these small-growing Orchids being easily incommenced by alternations of drought and moisture or heat and cold. Although not a large-rooting plant, it likes an abundant water supply when grown in these small receptacles, the roots interlacing and growing one over the other, occupying every bit of compost and drainage, and often pushing roots out into the congenial atmosphere. The growing and resting seasons are not very clearly defined, and, as a matter of fact, watering depends more upon the state of the weather and external atmosphere than the growth. The plant is a native of Pamplona, in New Grenada, and was discovered by M. Linden in 1842, but not introduced to cultivation for many years afterwards.

NOTES ON ORCHIDS.

THERE is plenty of finishing growths now, and the more sunshine and light allowed the better. In the warmest house many of the *Dendrobiums* are finished, and a few have already been taken out. *Catasetums*, *Cycnoches*, *Mormodes*, and other species of this class must be brought right up to the glass, and the removal of the *Dendrobiums* will facilitate this. All the New Guinea *Dendrobiums* must be kept warm now, more especially those that are pushing young growths. Keep the *D. Phalænopsis*, *D. bigibbum*, and similar kinds right up until the flowers are open, as the full light has a certain bearing upon the colour of the blooms, but when fully open the plants may go to the flowering house or to a cool, shady structure where there is not too much atmospheric moisture. Here they retain their freshness over a long season. The *Catasetums* may, if flower-spikes show, be well moistened and kept warm, but it is imperative that as soon as the flowers are over the plants be placed in the full sun either out of doors or close up to the roof-glass in a light house. It is different with *Aerides* and *Saccolabiums* growing, perhaps, in the same house. These, of course, like a resting season, but the conditions during growth and rest are not so widely different as are those needed by the pseudo-bulbous kinds named. As long as the hot weather lasts they will probably keep growing, but when cooler conditions occur the roots will soon begin to cloud over at the points, and after this a greatly diminished water supply must be gradually brought about. Deciduous *Calanthes* will by this time be able to stand the full sun, provided they have been gradually inured to it by slightly lessening the shading. In any case the more sun they get the better, as it hardens the pseudo-bulbs and foliage. No liquid manure or other stimulant is necessary after the buds begin to show on the flower-spikes, and it is still necessary to exercise care in watering about the base of the spikes. When the flowers show colour little or no water will be needed, and while the foliage is going off keep the plants turned occasionally to allow of the sun reaching all parts of them. The more sensitive *Phalænopsis* and *Anæctochili* must not be forgotten when the other plants are beginning to be rather hardly treated. A separate compartment should, of course, be set apart for these where possible, but if grown in the same house as those named

above they must be arranged in the warmest and shadiest position. As yet no fire-heat has been necessary, but as October draws on a little warmth will be allowed, not so much to keep a high temperature—for exciting temperatures at night at this time of year are dangerous—but to make the air in the house more buoyant and allow of free ventilation by night and day. From 60° to 65° at night is quite high enough for this house where the growths are finishing.

The *Cattleya* house is getting very interesting, and will now continue to do so as the autumn-flowering kinds come in. The beautiful *C. aurca* is in good condition now, and there are still a few late flowers of *C. gigas*, *C. Gaskelliana*, and *C. Eldorado* of the *labiata* group. Among the taller-growing kinds, the prettily-tinted *C. bicolor* is always welcome, while *C. Schofieldiana* in its better forms is a very fine thing. Many of the hybrid forms having *C. Loddigesi* as one of the parents are flowering now or just going over, and there is a strong family likeness in all these. There is still ample time to repot any *Cattleyas* that need this attention—*C. Eldorado*, for instance, and even *C. Bowringiana* if the growths seem inclined to root. Late plants of *Laelia purpurata* and *L. elegans* may still be put in order, but such as *L. superbiens* and the *Schomburgkias* ought not to be pulled about now. Water all these very freely where pushing their flower-spikes, and the latter especially may be encouraged by a little more warmth if the spikes do not seem to move freely enough. In a house not kept well up, such a species as *S. tibicinis* sometimes refuses to open its blossoms at all, and the strength of the plant is simply wasted on the production of a long barren spike. After the blossoms are past, place the plants in a cool, light house and decrease the water supply considerably. All this class of plant must by now be very nearly exposed to the full sun, only lowering the blind for an hour or two in the middle of the day, but *Vanda suavis*, *V. tricolor*, *Celogynes* of such kinds as *C. speciosa*, *C. barbata*, *C. cristata*, and others should as yet be more closely shaded. *Miltonia spectabilis* and its many varieties must have a little shade, or the foliage will suffer, but the less applied the better. All the species of *Laelia* in the Mexican house may be fully exposed to the sun, but if such kinds as *Odontoglossum grande* and *O. Insleayi*, *Vanda Kimballiana*, and others are included, the shading must be carefully managed; on the one hand not to injure the latter kinds, on the other to allow the greatest possible amount of light to the *Laelias*. Here the temperature may run up fairly high in the daytime, but from 50° to 53° is ample by night, and all the air possible must be kept on. Owing to repotting operations in the cool house, the shading must be well attended to now; but when the plants are again established, allow as much light as is consistent with a day temperature of about 60° to 65°, 50° being ample by night.

Habenaria Susannæ.—Where there is enough heat at command the *Habenarias* are very interesting. This species is exceptionally so, the tall spikes of white flowers, with the pure white lip cut up into long filaments, being very distinct from anything now in bloom. The spikes on strong plants are 18 inches or more in height, leafy, and each spike bears about three flowers. The plants should be grown in the East India house, in a compost such as suits terrestrial Orchids generally, equal parts of loam, peat, and chopped Sphagnum Moss, with abundance of finely-broken crocks and charcoal. The most frequent mistake in the culture of *Habenarias* is drying the roots too much in winter, yet there is a danger of the root-stocks decaying if kept in the soil and watered as usual. Many successful growers are in the habit of crushing charcoal and crocks, placing the mixture around the roots when potting. It keeps them clean and fairly moist without being stifled, so to speak, by the closeness of the compost. A shady position in a warm, moist house should be chosen, and light dewings over the foliage help to keep this in order and

insects in check. *H. Susannæ* is a widely-distributed plant, naturally occurring on the islands about the Malay Peninsula and also low down on the Himalayas. It was introduced about 1893.

ACINETA BARKERI.

THIS, the species illustrated in the accompanying cut, is a very fine Orchid, and it is a great pity that this genus should have gone so largely out of cultivation. Collectors seldom send *Acinetas* home, and when they are offered there is no great rush for them, while *Cattleyas*, *Odontoglossums* and other more popular kinds are very eagerly bought up. It is this continual duplicating of well-known kinds that makes present-day collections of Orchids far less interesting than they used to be, for on visiting nine places out of ten during any one week one comes across the same species and varieties in



Acineta Barkeri.

them all. This beautiful plant bears long pendulous racemes of golden yellow flowers, each marked with a bright red spot on the lip, and during the whole of the time it is in flower it emits a very pleasant fragrance. The foliage and bulbs are of a deep green when the plants are healthy, and they are very attractive even when out of bloom.

The culture of *A. Barkeri* is not very difficult. The plant is rather a strong feeder for an Orchid, so the compost must be substantial. Owing to the direction taken by the spikes, baskets or some other receptacle that may be suspended from the roof must be chosen, and well-placed drainage is essential. Use equal parts of peat, loam fibre, and chopped Sphagnum Moss for compost, adding thereto plenty of roughly

broken charcoal and crocks to ensure a free passage for the water. The roots delight in this open, yet substantial medium, and it is a noteworthy fact that good fibrous loam not only does not sour quickly, but it seems to have the effect of keeping the peat in a healthier state. A frequent mistake in the culture is to be always pulling the roots about. These, if healthy, are longer-lived than those of many Orchids, but, being of a thick fleshy nature, are easily damaged. It is all the more necessary, then, to do the rebasketing thoroughly, and to make sure that nothing sour or decayed goes into the new basket. Keep the plants up a little above the level of the rods, as unless this is done the spikes are occasionally injured. After basketing healthy plants, no trouble will be found in getting the roots to start, but should they seem slow, moisten them only very slightly until they

become more active. If roots are really plentiful, it is surprising what an amount of water is needed while growth is going on. No Orchid, in fact, requires more, but to water a compost containing but few healthy roots is wrong. It silts the finer particles down among the drainage and fines down the peat, making the whole sour and unsuitable for the roots when they do appear.

Plants that are in really a bad state at the roots would be far better shaken right out of the pots and laid on a moist stage until new roots appear. I have seen this Orchid very successfully cultivated on flat blocks of wood placed horizontally and given an inch or so of compost. It is a good plan, but apt to lead to a lot of trouble in watering. While at rest the moisture will naturally require to be somewhat lessened, but here it is well to be on the safe side, for anything approaching shrivelling will in all probability be followed

in the ensuing season by weak and badly coloured foliage, while many of the older leaves will often drop in spring. The East India house is not too warm for the plant provided plenty of atmospheric moisture is present. During the early part of the season especially, shading is very necessary, for the foliage is exceedingly liable to injury when young and tender, though liking abundant light and air later in the year. *Acineta Barkeri* is a native of Mexico, where it was discovered in 1837.

Odontoglossum citrosimum.—Knowing how many fail to flower this Orchid, I thought the experience of Mr. Simon, gardener to Mr. Ravenswood, Bexley, who so successfully cultivates it, might be of interest to some of your readers. The following is the treatment given to

his plants: They are put into baskets and pans in Orchid peat, with Sphagnum Moss on the surface, suspended from the roof of an intermediate house, and dipped in water when the Moss looks a little dry on the top. During the growing season great care is taken not to wet the young growths when dipping the plants. When they have finished their growth, water is gradually withheld until they are quite dry. They remain so for four or five months until the flower-spike shows. The plants remain in the same house all the year.—J. CARVELL.

FLOWER GARDEN.

ANTHEMIS STYRIACA.

THE accompanying illustration very clearly shows one of the best of composite plants, though, unfortunately, one also of the shorter-lived section of these flowers. In its flowering the plant is usually so profuse that it dies when the blooming is over. The illustration shows a large group of the plant, which flowered in the rock garden at Kew during the early part of the summer of this year. The plant is best

of the inflorescence is equal to that on house-grown plants. R. D.

Zauschneria californica.—This is again flowering grandly this year, the autumn drought and heat suiting it well. If those who complain of the plant running wild and giving but few flowers were to plant it at the base of a sunny wall, confining the roots to rather poor soil and using ample drainage, they would find that it would not encroach much on its neighbours and would flower magnificently; indeed, it is surprising to see such a continuous supply of bloom from such little growth. I find it very easy to propagate either from cuttings, which must not have much water, or by division. A little care in dividing is necessary, as the root-stalks are very brittle, but, on the other hand, the smallest bits will grow. It can be happily placed in crevices on the upright portions of a rock garden, and in the extreme west of England, where the fences are built up with sods and faced with vertically placed thin stones, gorgeous effects would be possible by planting it freely between the stones. —CORNBURIAN.

Helianthus lætiflorus.—Though the flowers of this are not so chaste in form as those of some others of its relatives, notably that lovely form of *H. rigidus* named Miss Mellish, the plant has such

grown and those which are allowed to remain unlifted year after year.—L. P. G.

VIOLETS AND HOT WEATHER.

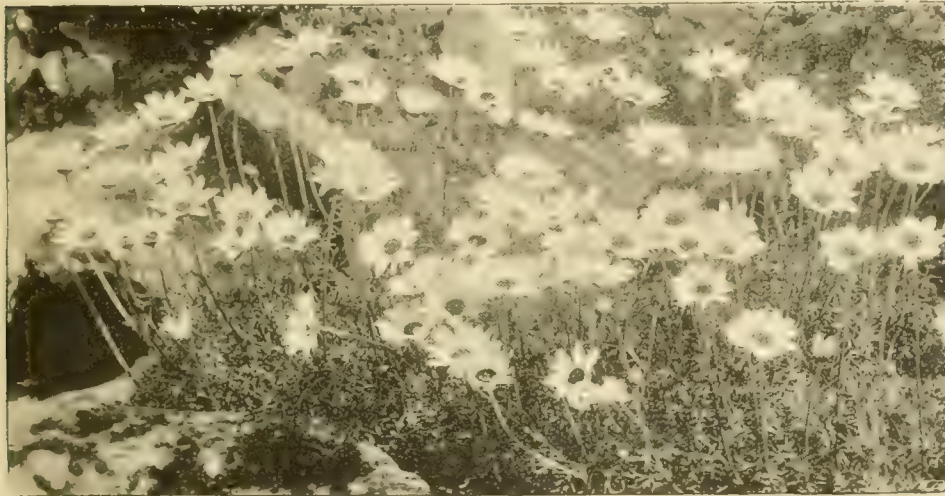
MR. CROOK'S note (p. 241) is particularly welcome after such a dry season. There are various opinions as to the position best suited for the summer growth of Violets, and I must say that after a good many years' experience I do not agree with those who advocate an aspect fully exposed to the sun, as the plants as a rule do not receive the attention Mr. Crook bestows on his plants—I mean in the way of mulching and constant syringing, which are absolutely necessary in seasons like the present if the curse of the Violet grower (red spider) is to be kept at bay. The idea that exposure to hot sun in order to mature the crowns and ensure a good yield of bloom is, I think, more imaginary than real. I prefer a position in which the plants get the benefit of the sun for a few hours only in the morning. It may be thought that plants grown in hot quarters stand the winter better, not suffering so badly in damp or foggy weather, but I have never had any great difficulty in that respect provided the plants were well grown and the foliage stout and leathery and regular attention to surface-stirring and airing given. It is the poor, flimsy, half-starved plants that succumb during the winter months. Of course there is not the risk of partial failure from growing the plants in the open where the subsoil is cool. Mr. Allan's Violets at Gunton generally occupy a north border throughout the summer months. Mulching and syringing, as mentioned by Mr. Crook, are two important points in summer management, and where the garden engine cannot be conveniently got to the plants, a hose should be employed so that the water plays with force on the underside of the foliage, that being where the pest secretes itself. Mere sprinklings overhead with an ordinary syringe or watering-can may be practised and spider thrive nevertheless. When on the subject of Violets, I may mention that a friend of mine whose Violets were diseased obtained from me a fresh stock of runners. Amongst other sorts I sent him some of Lady Hume Campbell. To my surprise, after they had flowered, he informed me that the latter was simply *Ue Parme* under a fresh name, a variety he had grown for years. I have always thought them distinct, but perhaps some other gardeners will give their opinion. J. CRAWFORD.

NOTES AND QUESTIONS.—FLOWER.

Lobelia Carmine Gem.—This can now be seen in full beauty at Gunnersbury, several plants forming a central group in one of the flower beds. What strikes one is the freedom and continuity of bloom shown by the plants. In addition to throwing up a strong central stem, the plants put forth many side ones. Not long since it was given an award of merit by the floral committee of the Royal Horticultural Society, when exhibited by Mr. W. Bain, from Burford Lodge Gardens. R. D.

Begonia Corbaille de Fau.—This very free-flowering Begonia, one of the *ascotensis* type, deserves notice for its value for growing under trees. Mr. J. Hudson has in Gunnersbury House Gardens two beds of it under the heavy shade of tall trees, where it is full of bloom and apparently quite as free as in the open. Around it there are several types of the zonal *Pelargonium* without a truss of bloom on any of the plants. We have but few flowering subjects which will do well under trees, and this Begonia is one of the best of them.—R. D.

Dahlia Rising Sun.—Despite their showy blossoms, all the Dahlias are not suitable for planting in a bed or mass, but this is one that can be recommended for the purpose. It reaches a height of about a yard, or sometimes a little more, while the large and full, but not particularly lumpy blossoms are of a rich scarlet colour. Occasionally tipped flowers will be produced, but they are not sufficiently numerous to be taken into consideration. Altogether this Dahlia forms a bright and effective bed, the flowers standing well up above the foliage. H. P.



Anthemis styriaca. From a photograph by Mr. J. Gregory, Croydon.

regarded as a biennial, and when afforded plenty of room will produce a rather close spreading tuft of somewhat silvery leaves, soft and woolly to the touch. As may be gathered from the picture, the blossoms are large and pure white, the heads being borne singly on the stems, which reach to 9 inches or thereabouts in height. The plant flowers for a long time during late spring and early summer. Some authorities consider it identical with *A. carpatica*, but for garden purposes the two are sufficiently distinct. E. J.

Salvia splendens grandiflora in the open.—Quite large bushes of this glorious plant can be seen in bloom in the open ground at Gunnersbury House. They are in a somewhat sheltered spot, but despite heat and drought they have flowered with remarkable freedom and still are doing so. The brilliant scarlet colour gives a striking hue during the gloom of the waning summer days. Mr. Hudson finds the best way to propagate this plant is by means of seed, as plants so obtained bloom so much better than those reared from cuttings. Out of doors the flowers appear to take on a more brilliant tint than under glass, and the size

good and distinct qualities as to make it very valuable at this season. Perhaps its greatest claim to notice is its lateness in flowering, it being a contemporary of that other valuable hardy plant, *Pyrethrum uliginosum*, and just now these and a few of the Michaelmas Daisies are the finest flowering plants in the outdoor garden. Under good culture it grows about 8 feet high and bears twenty or more flowers on each stem. It is very useful for cutting to fill quite large vases, and lasts longer in water than any other perennial Sunflower that I know. The flowers are deep rich yellow in colour, the disc brown when the flowers open, and changing to yellow as they become fully developed. The petals are irregular in number, averaging from fifteen to twenty; the stems brownish-purple, slender and wiry; the leaves deep green, fullest at the middle, narrowing to a point at each end, and borne thinly in pairs. The plant is an aggressive and persistent grower, spreading underground and coming up year after year from the thong-like roots, but this is of little moment, as to grow both it and all of its class well the strongest single crowns should be taken up yearly and replanted on a fresh piece of ground or on the same site after clearing it of surplus roots and manuring well. There is no comparison between the plants so

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— John Murray.

1894, July 14; Vol. XLVI., p. 32.

— Sieboldi and C. Jackmanni.

1882, Aug. 12; Vol. XXII., p. 142.

— Stanleyi.

1891, Jan. 24; Vol. XXXIX., p. 76.

— Vesta.

1876, April 29; Vol. IX., p. 408.

— Viticella var.

1891, Jan. 3; Vol. XXXIX., p. 10.

Clematises, a group of new.

1879, Aug. 2; Vol. XVI., p. 128.

hybrid: 1, Countess of Onslow; 2, Duchess of York; 3, Duchess of Albany.

1897, Oct. 16; Vol. LII., p. 304.

Clerodendron Kämpferi.

1892, Dec. 24; Vol. XLII., p. 562.

nutans.

1888, May 5; Vol. XXXIII., p. 412.

Clerodendron speciosum.

1877, May 19; Vol. XI., p. 404.

trichotomum.

1893, June 17; Vol. XLIII., p. 504.

Clethra alnifolia and C. Michauxi.

1881, Feb. 19; Vol. XIX., p. 208.

Clanthus Dampieri.

1881, July 23; Vol. XX., p. 86.

Dampieri marginatus.

1890, March 29; Vol. XXXVII., p. 299.

Clitoria ternatea.

1890, Aug. 9; Vol. XXXVIII., p. 132.

Coburgia trichroma.

1889, July 13; Vol. XXXV., p. 30.

Coelogyne cristata maxima.

1887, Feb. 26; Vol. XXXI., p. 190.

Colchicum speciosum.

1877, June 20; Vol. XI., p. 548.

Columbines, a group of hybrid.

1884, Oct. 11; Vol. XXVI., p. 320.

Comparetia macroplectron.

1883, April 21; Vol. XXIII., p. 356.

Conandron ramondiioides.

1897, Jan. 2; Vol. LI., p. 6.

Convolvulus Atkinsoni and C. Drummondii.

1886, May 29; Vol. XXIX., p. 498.

— mauritanicus.

1891, Jan. 17; Vol. XXXIX., p. 53.

Coreopsis grandiflora.

1895, Jan. 5; Vol. XLVII., p. 6.

— lanceolata.

1884, Nov. 29; Vol. XXVI., p. 460.

— tinctoria (dark var.).

1890, March 1; Vol. XXXVII., p. 202.

Cornus Kousa.

1893, Feb. 25; Vol. XLIII., p. 152.

Cosmos bipinnatus.

1892, Jan. 2; Vol. XLI., p. 10.

Cos'tus speciosus.

1895, Mar. 9; Vol. XLVII., p. 166.

Cowslip, the Virginian.

1885, Dec. 26; Vol. XXVIII., p. 652.

Cratægus tanacetifolia.

1885, Dec. 19; Vol. XXVIII., p. 632.

Crinodendron Hookerianum.

1880, Nov. 27; Vol. XVIII., p. 542.

Crinum Moorei.

1881, March 5; Vol. XIX., p. 260.

— Powellii.

1890, Jan. 25; Vol. XXXVII., p. 80.

— Sanderianum.

1897, Aug. 14; Vol. LII., p. 122.

Crocus Imperati.

1875, March 20; Vol. VII., p. 242.

Crocuses, autumn.

1886, Nov. 20; Vol. XXX., p. 476.

— new.

1878, Nov. 9; Vol. XIV., p. 420.

Crossandra undulæfolia.

1883, Sept. 15; Vol. XXIV., p. 530.

Cupressus Lawsoniana.

1875, June 19; Vol. VII., p. 508.

Cyclamen cyprium.

1876, Aug. 19; Vol. X., p. 190.

— repandum.

1885, June 13; Vol. XXVII., p. 544.

— Salmon Queen.

1895, June 1; Vol. XLVII., p. 378.

Cyclamens, a group of.

1879, Aug. 2; Vol. XVI., p. 106.

— Coum and Atkinsi.

1886, Nov. 6; Vol. XXX., p. 432.

— 1, Vulcan; 2, Butterfly.

1895, Sept. 7; Vol. XLVIII., p. 182.

Cycloches chlorochilon.

1897, March 6; Vol. LI., p. 172.

Cydonia japonica var. alba grandiflora.

1878, Feb. 16; Vol. XIII., p. 144.

- Cydonia japonica** alba and pink var.
1891, Aug. 8; Vol. XL, p. 126.
— Moerloosei.
1891, June 29; Vol. XXXV., p. 602.
- Cymbidium eburneo-Lowianum.**
1895, Oct. 5; Vol. XLVIII., p. 262.
— Mastersi.
1884, May 24; Vol. XXV., p. 432.
- Cypripedium acaule.**
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— cardinale.
1885, June 6; Vol. XXVII., p. 520.
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1893, April 15; Vol. XLIII., p. 304.
— Charlesworthi.
1895, April 13; Vol. XLVII., p. 252.
- Dominianum.
1891, May 2; Vol. XXXIX., p. 42.
— Godefroyae.
1885, May 16; Vol. XXVII., p. 444.
- **insigne** Maulei and C. **insigne** var. punctatum violaceum.
1882, June 24; Vol. XXI., p. 444.
— macranthum.
1877, Jan. 13; Vol. XI., p. 30.
— Morganiae.
1883, Jan. 20; Vol. XXIII., p. 58.
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1891, May 23; Vol. XXXIX., p. 482.
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1876, June 3; Vol. IX., p. 524.
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1883, March 3; Vol. XXIII., p. 202.
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1891, June 20; Vol. XXXIX., p. 568.
- Cyrtanthus sanguineus.**
1890, Apr. 12; Vol. XXXVII., p. 344.
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1896, July 25; Vol. L., p. 62.
- Cytisus nigricans.**
1887, Aug. 27; Vol. XXXII., p. 176.
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1892, Aug. 27; Vol. XLII., p. 188.

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- Dabœcia polifolia.**
1897, Oct. 30; Vol. LII., p. 344.
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1885, Oct. 31; Vol. XXVIII., p. 458.
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1890, July 26; Vol. XXXVIII., p. 82.
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1878, Aug. 3; Vol. XIV., p. 110.
— Cactus: 1, Meg Merrilies; 2, Guy Mannering; 3, Althea.
1894, Feb. 17; Vol. XLV., p. 130.
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1881, Dec. 31; Vol. XX., p. 630.
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1881, Feb. 5; Vol. XIX., p. 154.
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— **Gatesi**, **I. Lorteti**, **I. lupina.**
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— **Histrio.**
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— **histrioides.**
1892, Oct. 22; Vol. XLII, p. 364.
— **iberica.**
1876, Dec. 2; Vol. X, p. 526.
— **Kämpferi** var.
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— **Kämpferi** vars.
1882, June 17; Vol. XXI, p. 424.
— **Kolpakowskiana.**
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— **Korolkowi.**
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1881, Sept. 10; Vol. XX, p. 272.
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1879, Dec. 20; Vol. XVI, p. 558.
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1878, July 6; Vol. XIV, p. 12.
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1881, Oct. 29; Vol. XX, p. 442.
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J.

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L.

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1894, Sept. 29; Vol. XLVI, p. 296.
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1889, April 6; Vol. XXXV, p. 314.
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1893, Nov. 11 ; Vol. XLIV., p. 438.

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1878, June 15 ; Vol. XIII., p. 572.

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1880, July 24 ; Vol. XVIII., p. 84.

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1883, Dec. 22 ; Vol. XXIV., p. 552.

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1876, Aug. 5 ; Vol. X., p. 134.

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1886, Dec. 18 ; Vol. XXX., p. 566.

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1885, Oct. 24 ; Vol. XXVIII., p. 430.

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1879, March 8 ; Vol. XV., p. 202.

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1896, July 18 ; Vol. L., p. 42.

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1893, April 22 ; Vol. XLIII., p. 326.

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1889, Sept. 7 ; Vol. XXXVI., p. 222.

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1883, Oct. 13 ; Vol. XXIV., p. 318.

— of the *poeticus* group.

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1897, July 31 ; Vol. LII., p. 82.

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1893, Aug. 26 ; Vol. XLIV., p. 188.

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1883, Sept. 15 ; Vol. XXIV., p. 226.

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1896, Aug. 22 ; Vol. L., p. 144.

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1887, Nov. 26 ; Vol. XXXII., p. 488.

— *triandrus* var. *albus* and *N. cyclamineus*.

1888, Aug. 25 ; Vol. XXXIV., p. 178.

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1876, March 11 ; Vol. IX., p. 246.

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1893, June 3 ; Vol. XLIII., p. 462.

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1885, May 30 ; Vol. XXVII., p. 496.

— *Mastersiana*, *N. Chelsoni*, and *N. Mor-*
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1883, June 2 ; Vol. XXIII., p. 492.

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1880, June 19 ; Vol. XVII., p. 542.

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1882, March 25 ; Vol. XXI., p. 200.

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1890, Feb. 8 ; Vol. XXXVII., p. 130.

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1879, June 28 ; Vol. XV., p. 516.

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1883, April 14 ; Vol. XXIII., p. 334.

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1894, Feb. 24 ; Vol. XLV., p. 154.

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1882, Feb. 25 ; Vol. XXI., p. 130.

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- *Kolpakowskiana* and *T. Leichtlini*.
1891, Aug. 22; Vol. XL., p. 174.
- *Ostrowskyana*, *T. fragrans*, and *T. australis*.
1894, June 9; Vol. XLV., p. 486.
- *Picotee*.
1895, Oct. 12; Vol. XLVIII., p. 282.
- *vitellina*.
1889, Dec. 7; Vol. XXXVI., p. 530.
- Tulip** Golden Eagle.
1896, May 16; Vol. XLIX., p. 364.
- Tulips**, old garden.
1888, Oct. 6; Vol. XXXIV., p. 324.
- Tydæa** Madame Heine.
1888, Nov. 10; Vol. XXXIV., p. 440.
- *Robert le Diable*.
1879, May 10; Vol. XV., p. 376.

U.

- Urceolina** pendula.
1888, May 12; Vol. XXXIII., p. 436.
- Ursinia** pulchra var. *aurea*.
1890, April 26; Vol. XXXVII., p. 392.
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1882, Dec. 2; Vol. XXII., p. 486.
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V.

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- Vanda** cœrulea.
1882, April 15; Vol. XXI., p. 254.
- *Hookeriana*.
1883, Jan. 6; Vol. XXIII., p. 10.
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ORCHIDS.

ODONTOGLOSSUM HARRYANUM.

DURING the ten or twelve years that have elapsed since the late Mr. Horsman, of Marks Tey, imported this fine species it has rapidly advanced in favour, and is now one of the most popular of Orchids. It is also one of the most distinct and beautiful, the disposition of colour being unusual in the genus. From a pale green pseudo-bulb it throws up tall semi-erect scapes of flower, these varying somewhat in size and colour. Good forms have the blossoms each upwards of 3 inches across, the ground colour of the sepals and petals chocolate-brown, irregularly streaked with bright yellow. The latter have in many cases a large white area at the base, this being lined with bright purple. The lip is principally white, lines and bars of purple radiating from the centre, where there is often a fine yellow crest. It is a Colombian species, and therefore does not require any great amount of heat, but I have always found that newly-imported plants for the first season, or even two seasons, make a far better growth and larger pseudo-bulbs in a house kept nearly as warm as the Cattleya house. They get a better hold upon the compost, and this is very important, for unless an Orchid takes with a will to its adopted home the first season or two the probability is it never will.

O. Harryanum is not a difficult species to grow when well established, but it is always well to keep it healthy, for once out of health it is difficult to bring it back again. Often fine plants have been ruined by overflowering, the plants being allowed to perfect and carry the large, vigorous spikes that are produced from healthy plants before they are properly established. It is not always they do so, and the probability is that a good deal depends upon the time of year the plants are collected. Often newly-imported plants push up poor spikes, but these do not distress the plants much, and the

latter go on and increase in vigour annually; whereas a fine healthy plant may throw up a large spike which, if allowed to remain on until it fades, will paralyse the growth of the plant, so weakening it that years of careful culture are necessary to bring it round. Far better cut the spikes as soon as the flowers open, or even pinch them out and let the plant gather strength before flowering at all. It is always best and cheapest in the end to purchase fairly strong and large plants of this species, for though the small bits sometimes offered seem remarkably cheap, they are not really so, and they will be many years before they reach flowering size, if ever they do. Being a fairly free-rooting species, the pots may be of medium size. The best material should be used for potting, equal parts of peat fibre and Sphagnum Moss being a good mixture. Place this thinly and firmly, with plenty of finely broken crocks over free drainage. Plants well potted will remain two years, or even three, without needing any further disturbance, so room may be left for two years' growth at least before the bulbs reach the rim. O. Harryanum requires ample moisture when well established, and as soon as the roots have taken a firm hold and one pseudo-bulb has been made, the plant may go to a rather cooler house. Such an one as suits O. grande and O. citrosimum will do it well. Not only the roots, but the head of the plants must be kept moist while growing, and for this reason light dewings from the syringe are very helpful in dry, hot weather. In no case must the least sign of shrivelling take place, this being very weakening to the plants and leading to small growths and puny flower-spikes. Less moisture is needed, of course, when the plants are at rest, but as they are not very constant in their time of growing and resting, no exact time can be laid down. A plant resting in autumn would naturally need more water than when resting in the middle of winter, while by the same token, a growing plant in winter needs more care in watering than when growing during the summer months.

VANDA CÆRULEA.

THERE is not among the many fine species flowering at this dull season of the year a more striking Orchid than V. cærulea. Its azure-blue flowers are always admired, either on the plants or when cut. It is usually considered a somewhat difficult plant to keep in good health for many years after importation. It grows freely enough for the first two years in almost any position, but it is generally after that period that any difficulty is experienced. This difficulty may be overcome with a little forethought. I am afraid that the too liberal supply of water and high temperature we so often give the plants during the resting season must account for the destruction of the majority of the plants that are imported annually. Is it to follow that, because this is an evergreen species and coming from the Khasia Hills, its requirements are met by keeping the plants in a growing atmosphere throughout the whole season of the year, and thus attempting to induce unnatural growth? In my opinion this is one of the greatest mistakes made in its culture. I find that if the plants are treated with due consideration during the resting and growing seasons there is no Vanda that gives a better return or is less difficult to manage. I usually add some Moss to the plants in March, when they are removed from their winter or resting quarters into the East India house, where they are suspended near the roof glass in baskets. They get a good watering as soon as they have been attended to, after which they are kept in a reasonably dry condition until growth and root action set in. Then the plants are liberally supplied with both atmospheric and root moisture, which is continued right up to the time the flower-spikes appear and continued until the blooms have been removed. The plants are then gradually worked into cooler quarters and a drier condition of the roots is maintained. One of the best positions that can be given during the resting season is a vinery where there is always a free circulation of air and from which frost is excluded. The watering will be the principal item to be considered. Especial care is required in dull, cold weather, for the least excess of moisture at the root during such conditions is liable to cause the dreaded black spot on the foliage. This Vanda does not produce its

flowers satisfactorily in the London area, owing, no doubt, to the dull, smoky atmosphere to which we are subject. The flowers do not come nearly so fine in point of colour as we see them in a purer atmosphere and under favourable conditions. I have had flowers of what I have known to be exceptionally fine varieties come almost paper-white when the outside conditions have been dull and sunless. H. J. C.

Epidendrum inversum.—The pretty whitish and purple flowers of this species make it worth a place in all collections where variety is looked for. The plant is easily grown, and if properly treated flowers freely enough, though it is not unusual in some places for it to remain year after year without showing a flower-spike. This is owing to giving too much heat and moisture and insufficient light after the growth is made up, for it is as fond of light and air as are the evergreen Dendrobiums.

Miltonia Lamarckiana (M. candida × M. Clowesi).—This is a natural hybrid. The sepals and petals are deep brown, barred and tipped with bright yellow, with some purple at the base. The front half of the lip is pure white, with a broad blotch of purple in the centre. There are several prominently raised ridges at the base, white, shading to purple. The habit of growth has the intermediate character of both the parents. A plant with two spikes of flowers and buds was recently exhibited at the Drill Hall from Sir T. Lawrence's collection.—S.

Cypripedium Leeanum.—This lovely hybrid is still one of the very best and most showy. The fine dorsal sepal has a small bright green area at the base, from the centre of which a line of spots reaches nearly to the apex, the rest of the segment being pure white, the lower part having many small purple spots. The petals are yellowish, streaked with brownish purple, wavy on the edge, and the pouch is yellowish brown. The plant is one of the best growers and thrives well in an intermediate house. Its parents are C. insigne and C. Spicerianum, the original plant having been raised in Messrs. Veitch's nursery, where it flowered in 1884.

Lælia Dormaniana.—The habit and flowers of this Lælia are quite distinct from those of any other, and apart from this it is a pretty species that ought to be freely represented in all collections of Orchids. It is not of the strongest constitution, but still with ordinary care it may be induced to grow satisfactorily and flower freely. It should not be given too large a pot, for the roots, though fairly fleshy, do not seem able to push through a great thickness of compressible compound. The ordinary Cattleya house temperature suits it well, and no special treatment beyond careful watching of its growth and resting seasons is necessary. The flowers are a brownish or olive tint in the sepals and petals, these being marked purple, the lip bright rose and purple, an effective bit of colouring.

Lælia anceps Schröderiana and **Schröderæ.**—In "H. J. C.'s" note on L. anceps alba (Oct. 15, p. 296) he refers to this variety in Mrs. Lea's collection at Parkfield as Schröderæ. I have no doubt it was but a slip of his pen, but as there are yet many who are not aware that the difference in termination of the specific adjective entirely alters the case, and means two varieties, very distinct from each other, it will be as well to refer to it as the anceps season commences. L. a. Schröderæ is a dark form of good proportions with a very dark small lip; its petals and sepals have dark tips, shading to light rose at bases. Schröderiana is a white form that came with Stella and Sanderiana. It is pure white everywhere with the exception of the crimson lines in the tube of the lip and the pale yellow ground colour on which they are pencilled; its lip is large, broad and flat. This description will read the same as that for Stella, and in colour there is no difference. The distinction lies in form. Stella has a long-stalked lip, an extension of the ordinary dark anceps lip. L. a. Schröderiana has a very

broad, almost oblong ovate lip, with no stalk to it. Moreover it has the peculiar overlap of the side and front lobes at their junction more marked than in any form of anceps I ever saw. Having studied L. anceps specially, I can fully appreciate how easily mistakes may be made by those who only superficially observe the many forms that have been named. It would have been far better had Reichenbach not named Sanderiana as a species. Had he called it Dawsoniana var. pacifica (it comes off the Pacific or western slope of Mexico) he would have done better, as no one who looks at the two can find out any difference which is enough to make another species of it. It is only a geographical form of Dawsoniana. There are those who rely on the shape of the latter to make it distinct from the former. Is not a bad form from Fusaganga as much Odontoglossum crispum as a fine form from that very elastic place, Pachó?—DE B. CRAWSHAY.

NOTES AND QUESTIONS.—ORCHIDS.

Odontoglossum Schröderianum.—On page 297 "Stelis" mixes two distinct plants in one name. The Odontoglossum is a supposed hybrid found in Colombia, thought by Reichenbach to be between O. tripudians and O. Pescatorei; it is a unique plant in Baron Schröder's collection. The Miltonia comes from Central America. Under M. Schröderiana in Veitch's "Manual of Orchids" this prevalent error is pointed out. Both plants are recorded there in proper positions.—DE B. CRAWSHAY.

Dendrobium Parishii.—This variety is quite unsuitable for pot culture on account of the horizontal character of its growth. If small plants in pots are stood near the pathway, they are almost sure to come to grief if knocked by the hand or coat. The best receptacle for them is a basket or pan, this being suspended from the roof. I have found that it requires thorough ripening ere it will flower at all freely. I once had a plant which for years refused to flower when given the usual Dendrobe treatment. At length I placed it as soon as growth was completed in a Pine stove and gave it a thorough baking. The following spring it bloomed.—J. C. N.

FLOWER GARDEN.

FORMING A BOG GARDEN.

I HAVE a shady corner at the angle of north and west walls at the end of a lawn. I want to make a bog garden of it. There are about 4 or 5 square yards. How shall I go to work? Is it necessary to put in a cement bottom? The soil is rather stiff and retentive.—A. E. GIBBS.

* * The position named appears a capital one for the suggested bog garden, and with a selection of suitable plants could be made a most attractive spot. The "shady corner" referred to will accommodate many good things, though a shady place is not an absolute necessity, so far as life is concerned, but it is material in the prolongation of the flowering subjects which, in every garden, it is desired to retain as long as possible. There is no food for plants in a cement bottom, there is no drainage, and unless the drainage is made accurately a possible stagnation of the whole is neither improbable nor impossible. Moreover, it is an added expense, from which no adequate return is likely to ensue, and it may, therefore, be dismissed altogether from the subject. As no idea is given concerning the moisture supply, I take it such is forthcoming either as an overflow from an adjacent fountain basin, or it can be laid on and, therefore, placed under control. For present purposes I will assume it is under control. This being so, "A. E. G." may go to work in the following manner: Excavate the original soil for the space of two-thirds of the whole area at disposal to a depth of 2 feet, sloping the remainder to the sides all around in such a way that the shallowest portion could be given 8 inches or 9 inches of prepared soil, and allowing that the surface-level of the bed shall be 4 inches or

6 inches below the ordinary surrounding level. In this way the rainfall is secured and is often helpful. A moderate firming when in a moist state will make the bed sufficiently secure for retaining the moisture. In the lowest part of the bed, 4 inches to 6 inches of clinkers, broken pots, &c., may be placed for the sake of drainage, and, if possible, a slow drain may be also connected therewith to take superfluous moisture. This to some may seem a sort of contradiction to the term "bog," which naturally is more or less always of a swampy nature. The artificially arranged bog bed differs from the swamp or bog in nature, chiefly by devoting acres to perhaps a solitary species or genus, whereas the artificial bog is an endeavour to grow in a few yards some fifty or more species, all more or less moisture-loving, but not in the same degree. Experience, too, has shown that artificially supplied moisture is best for the subjects when a more or less frequent and constant change is going on, though at a comparatively slow rate. Again, a shallow piece of soil held constantly in artificial saturation will not long grow plants well; the initial cost, therefore, of the drainage suggested will be much best in the end. With the drainage inserted, a few thickly-cut grass turves should cover the whole, grass side down, and be tightly trodden in position. Should this be deemed insufficient, an inch or two of the original retentive soil will assist a slower percolation of the moisture through the turves to the drainage.

With such preparation an ideal spot will be formed for some of the most beautiful of shade and moisture-loving plants. The sloping sides of the bed will need no such preparation, as the drainage is secured to this portion by the deeper central section. All is now ready for the prepared soil. For the deeper part, peat, roughly broken, may be used for the bottom, taking care to rid it of Bracken roots where such exist. The remainder may be in the following proportion: Rough peat and half-decayed leaf-soil in about equal parts, a sixth part of good turfy loam, with a free addition of sharp sand and old mortar rubbish passed through a half-inch sieve. Such a soil is suggested in the face of the position given, and the exceptional opportunities thereby afforded for accommodating some of the best Lilies, otherwise many bog plants are as perfectly happy in wet loam as in any soil. This, however, is not the soil best calculated to grow a variety of things. The whole of the soil should be made tolerably firm and sufficient given to allow of settling and decay consequent upon saturation. In the shallower parts, or at least, a portion, the soil may be peat, loam and leaf-soil in equal parts, with an addition of sand. Provided no better means are at hand, such a bed may be amply supplied with moisture from a perforated pipe around the margin and in one or more directions across the centre of the bed.—E. J.

Propagating Acantholimon.—Coming across Mr. F. H. Neve's note in your issue of August 13, describing how he successfully increases A. venustum, I told the grower who has charge of the alpine plants here. He said nothing, but led me to a cool Orchid house, and there showed me a pan with about fifty cuttings of four different species of Acantholimon looking the picture of health. These cuttings, single rosettes, with half an inch of stem to each, from which the leaves were removed, were taken in June and dibbled into a layer of 1 inch of sharp river-sand, underneath which the pan contained a suitable compost for the young roots to penetrate into. The pan was placed close to the glass in the Orchid house (but in a position where the sun could reach only for a short time), covered over with a pane of glass, and given an occasional very slight sprinkling. When signs of growth appeared the glass covering was gradually removed. Out of the whole lot only five failures were indicated by vacant spaces. Another pan contained cuttings of Armeria cæspitosa, likewise a troublesome plant to strike. These also were doing well.—E. HEINRICH, Munich.

DELPHINIUM SULPHUREUM (ZALIL).

THE advent of the yellow-flowered Larkspur created an amount of surprise on a par perhaps with the first announcement of the scarlet kind, when the latter, in the shape of *D. nudicaule*, made its appearance many years ago. The point in common between the two species now mentioned, while differing widely in colour, in habit and stature, is due to the fact that a similar treatment is necessary, and both species are possessed of a somewhat similar tuberous kind of root. As may be gathered by a glance at the accompanying illustration, the species is somewhat tall and freely and distinctly branched. In this latter respect it is quite unique, as it does not form one strong central spike, with numerous smaller as well as much later lateral branches, as in the florists' kinds generally, but instead inclines from the first to develop what is obviously characteristic of the species, a decidedly forked habit of growth and flowering. All this is well shown in the picture, and equally so the apparent absence of foliage, which, to say the least, is an unfortunate drawback in a plant so unique and yet so amenable to culture in British gardens. Would-be growers of the plant will doubtless be pleased to learn that the plant possesses the valuable characteristics of seeding freely as well as flowering freely. At the same time it should be pointed out that only in exceptional seasons and in the earliest flowered examples is there much hope even in the south of England of obtaining anything like a full crop of seeds. The latter are, however, to be purchased at a cheap rate from specialists in hardy seeds, which fact will make the plant worth growing freely and in groups in various positions in the garden. It will, however, be advisable to select rather sheltered positions, owing to the manner of growth and the widely-spreading habit of the inflorescence. The plant is a native of the hill districts of Afghanistan, where it is found in a wild state covering large areas.

One of the good features of the species, so far as concerns its culture in our gardens, is its freedom of flowering, an unusual characteristic of these tuberous kinds. To make sure of flowering plants, however, it is best to treat it as an annual, sowing the seeds in a warm manure frame quite early in each year. As soon as the seedlings are up and of sufficient size, give a liberal shift into 4-inch pots in good soil, made rather sandy and light. In the month of May the plants may be put out in groups in warm, sheltered positions in the garden, half-a-dozen or so plants making a fine feature when in flower. A few of the more vigorous seedlings may flower the first season, but the best results are secured when the flowering is delayed till the next year. The flowers are generally so abundant that the plants are more or less exhausted. At the same time, if the winter prove a mild one, a few of the roots may survive, if protected by leaves or a handful of cocoa-nut fibre. During the past summer the plant has been shown in capital condition before the Royal Horticultural Society.—E. J.

Mr. M. Kingsley, Bourne Orchard, Hertford, sends us the following note re this *Delphinium*:

I send you a photograph of a group of *Delphinium sulphureum* in the rock garden here. The plants were grown from seed sown in January, 1897, and are now flowering for the first time. The largest is over 6 feet high. They have received very little care beyond occasional watering and a dressing of manure, but their success has given a special charm to that part of the garden.

LILIUM OCHROLEUCUM.

(L. SULPHUREUM.)

THE opening up of some parts of Burmah a few years ago was the means of introducing a few distinct Lilies into British gardens, the first to flower being the striking *L. nepalense*, which was so different from previous descriptions of it, as well as from any other Lily in cultivation, that it attracted a very great share of attention when first exhibited. After that came the magnificent



Part of a group of *Delphinium sulphureum* (Zalil). From a photograph sent by Mr. Kingsley, Bourne Orchard, Hertford.

Lily figured on page 259 as *L. ochroleucum*, also totally distinct from anything else. The nomenclature of this aroused a good deal of controversy, as when first flowered by Messrs. Low it was named by Mr. Baker *Lilium Wallichianum* superbum, a very inappropriate name for a Lily that differed in nearly every particular from *L. Wallichianum*. I pointed this out at the time and suggested it might be the *L. ochroleucum* of Wallich, which has been referred to *L. nepalense*, but it is cer-

tainly difficult to understand that a botanist of Wallich's experience should ever have given the specific name of *ochroleucum* to the Nepal Lily, while it might be appropriately bestowed upon that previously known as *L. Wallichianum* superbum. However, further controversy was silenced by Mr. Baker reconsidering his previous decision, and assigning the Lily specific rank under the name of *L. sulphureum*, which must therefore now be regarded as the correct name of this stately Lily. Its prominent characteristics are well shown in the

illustration on page 259, where several of its most distinctive features may be noted. Particularly prominent is the great number of its rather narrow leaves, the presence of bulbils in the axils thereof, the large massive flowers, and the bold and striking appearance of the entire specimen. The colour of the flowers is a kind of ochre-yellow in the interior of the tube, the recurved portion being of "a milk-white hue. The three outer segments are usually tinged with purple on the exterior, but this feature varies a good deal according to the amount of exposure they have received. The leaves, too, in a young state are tinged with reddish brown. The bulbils of this species are large, compactly built, and of a deep brownish colour, a tint but little represented among its immediate allies. The before-mentioned bulbils in the axils of the leaves are particularly interesting, as this species is the only one belonging to the Eulirion or tube-flowered group of Lilies in which this feature occurs. In this the bulbils are a good deal larger than those of the Tiger Lily, which is the best known example in our gardens of this peculiarity. I was extremely pleased to hear that this grand Lily had withstood the last two winters in the open ground in Dorset, and hope it will continue to improve and become permanently established. It certainly succeeds much better under cultivation than any other species from the same region.

H. P.

Phygelius capensis.—I am surprised to

see some doubt cast on the hardiness of this plant. Certainly it does best in places where the winters are mild, that is if it gets an open position with plenty of sunlight, as it then commences to flower earlier and keeps on throughout the autumn, besides which the colour is brighter in such places. As to its hardiness, I may say that it has been grown here in the open border without any protection for the past eleven years, during which period it has experienced a tem-

perature below zero many times, and early in 1895 no less than 7° below for several successive nights, which is a test sufficient for most places, and it has always grown away strongly again and flowered more or less freely each autumn. It is only fair to add that the soil is sandy and light. One group stands within a very few inches of water level, which is not the most desirable position for the plant. It was simply planted there to test its hardiness.—J. C. T., *Livermere Park, Bury St. Edmunds.*

Plumbago Larpentæ.—I have never tried this plant on a sunny wall as suggested by Mr. Arnott (p. 260), but can quite imagine that it could easily be made a success in such a position, and I think the suggestion a valuable one. In a very dry border, the soil of which is shallow, of a peaty nature and filled with the roots of shrubs, it is one of the happiest of plants and shows no signs of distress even in this dry season. Just now it is well in flower, and many of the leaves have assumed a brilliant orange-red colour. These will remain after the flowering is over and continue to make the plant interesting. Mr. Arnott gives a very interesting account of the difficulties found in cultivating it during the early period after its introduction, but I think that its scarcity even now goes to prove that its requirements are not yet thoroughly understood. When planted where the soil remains moist for many months of the year, it has a way of dying out, and is consequently looked upon as a difficult plant to keep, but by changing the position and planting in a dry and rather poor soil it gives no trouble. The spot selected need not be a sunny one, as it does well with me in comparative shade, but the other conditions for its welfare are imperative if the plant is to become established and live on for years without much care being expended on it.—**CORNUBIAN.**

PLANTAIN LILIES FAILING TO FLOWER.

I HAVE been growing *Funkia subcordata* grandiflora under a south wall, but it does not blossom freely. The flowers do not come out well. Would it do well under a wall in a half shady place?—**W. W.**

* * A position "under a south wall" is too hot to suit the requirements of any of the bolder kinds of Plantain Lilies unless the soil is particularly good and deep and considerable attention paid to watering in summer. A partially shaded position would suit the plant well provided the shade is given from a distance and the soil not greatly impoverished by tree-roots. All these Plantain Lilies are quite easily grown, and you would do well to select a rather more open spot if possible with distant shade in the hottest part of the day. Your failure has more to do with soil and heat than aught else, and suggests the desirability of a rather deep bed at least 2 feet of good loamy soil rather holding than otherwise, and abundantly enriched by rotten manure. It may be well also to divide the plants and replant them in one large group, allowing a fair distance for future development rather than replanting the example bodily. The division may, however, prevent the flowering of the plant for a season. In any case the group would show a decided improvement a year later by the increased vigour of the crowns, which in turn should flower the season ensuing. Bold and vigorous by nature, great rooters, and gross feeders also, these plants should always be liberally dealt with if free-flowering is required, or even where the best results are expected from them even as fine-foliaged plants. In the case of established clumps, either a liberal mulching or frequent soakings of liquid manure during winter will prove beneficial. In dividing large clumps pieces of 6 inches or 7 inches diameter would be small enough, grouping these a foot asunder or rather more, and so forming one large irregular group. When replanting in the open do not bury the crowns too deeply, 2 inches or 3 inches of soil above them being sufficient, making all quite firm. These well planted with mulchings each year would remain several seasons in excellent con-

dition, and for a space of three or four years continue to improve. This is especially the case where there is no lack of summer moisture. This year, however, not a few of such vigorous rooting perennials are suffering from the want of rain.—**ED.**

FLOWER GARDEN NOTES.

THE present season seems likely to establish a record for the duration of summer-flowering tender plants, as up to the present time (October 20) nothing is injured, if we except the browning of a few Dahlia tips, and there is still a very fair amount of bloom. The Dahlias were only partially hurt, and it has not interfered with the flowering to any appreciable extent; the back blooms have pushed up quickly, and I am cutting very fair supplies two and three times a week. *Tropeolums*, both single and double, and *Heliotrope* plants, that rank among the most tender, are uninjured, whilst harder things, as *Ageratums*, *Marguerites*, *Fuchsias*, *Begonias*, both tuberous and fibrous, are not only unhurt, but are still quite a mass of flower. We had 5°, 6°, and 7° of frost on successive nights in September, but everything was at the time wonderfully dry, and so escaped. It is, however, quite certain that, although one may regret the necessity of removing plants still well in flower, the operation must be performed if a spring display is required, as those things prepared for this are more than ready; also where bulbs are to be planted it is quite time they were in, and if the season is allowed to get on too far, a spell of bad weather will cause further delay. Elaborate autumn planting is only available in public parks or in private places where labour is plentiful, and I hardly think the result is so satisfactory as when beds are filled in a simple manner. If they are fairly close together, it will be well to fill each with the one shade rather than attempting edgings or mixtures, and a judicious selection will give both great variety and a fine display. Wallflowers may be represented by good strains—dark red and deep yellow, sulphur-yellow, Harbinger, and Ruby Gem. *Polyanthus*, if sown in separate colours, will give white, primrose, yellow, terra-cotta, purple, and crimson, both light and deep, whilst *Silene* will supply the pink and *Myosotis* the blue. If it is thought advisable to relieve the flat surface inseparable to all the things above mentioned, a few small conifers may be dotted among them, regulating the number of the small trees by the size of the beds, so that just sufficient are employed to break the carpet, and not so many as to suggest crowding. *Retinosporas* in various shades of green, gold, and silver are best for the purpose. Where a stock of them once acquired is held over for several years they will require a little special attention through the summer months, especially in seasons like the present, to see that growth keeps well on the move and there is no sign of getting brown and subsequently bare patches. When lifted at the end of spring, both head and root should be trimmed over to regulate straggling growth; they should be planted on a border with a northerly aspect, mulched, and well supplied with water if the weather renders this necessary. If more bright colour is required than is likely to be furnished by the things mentioned above, *Tulips*, *Hyacinths*, and *Daffodils* may be planted in more or less numbers, as may be deemed advisable. The practice of mixed planting seems to be increasing in favour quite as much in spring as in summer bedding, and *Polyanthus* beds of all shades, also *Silene* and *Forget-me-not*, are found thickly studded with *Tulips* and *Daffodils*. There is no mistake about the brilliant display, but it looks artificial, and this should be avoided as much as possible in the spring garden (at least that is my idea); if the mixtures are required, the gardener has no alternative but to cater in this direction.

PERMANENT EDGINGS that are getting thin and ragged may be taken in hand at the present time whilst the weather is suitable, and if there is any

doubt as to their ability in their present form to furnish the ground thoroughly another season, it will be advisable to lift entirely and replant. Long herbaceous borders that I am gradually filling up with clumps of different things in various heights to within a foot of the walks have been fronted with stretches of Chamomile, dwarf *Sedums* (both green and variegated), *Veronica incana*, Tufted Pansy *Violetta*, *Saxifraga umbrosa*, *Phlox setacea*, the newer *Aubrietias*, with smaller bits of *Gentiana acaulis* and *Heuchera sanguinea*. With beds on grass I would not suggest any regular lines of dwarf subjects for the outer edge, but, given long borders on either side a gravel path where there is a considerable amount of traffic, it is the better plan, as taller things are apt to get in the way, and the outer stretches can always be so planted as to harmonise with the things immediately behind them. All propagation by division of any good species and varieties on the hardy plant border may now be pushed forward, as, with the exception of a few *Helianthus* and *Starworts*, the flowering season is nearly at an end. **E. BURRELL.**

Claremont.

Morina longifolia.—When looking through Mr. G. F. Wilson's Wisley garden in July last I saw some clumps of this in full bloom, and in the middle of September they were still effective. Any hardy flowers that will remain attractive for so long a period in a time of great heat and drought are of much value. This *Morina* is handsome and distinct, throwing up flower-stems each about 2½ feet high, the white and rose-coloured flowers being shown off to great advantage by the bright green foliage.—**J. C. B.**

Carnation Celia.—Of all border Carnations, I know of none that in hardiness of constitution and free, stout habit of growth surpasses *Celia*. I had some plants from Mr. Allan, of Gunton, with whom this variety is a special favourite. Well-rooted layers form quite large plants by November when transplanted in August, and flower freely the following summer. The flowers are of extra large size, the colour being a beautiful bright shade of pink. The blooms are borne on extra long stems and are not soon damaged by wet. A good-sized bed filled with *Celia* has a charming effect when the plants are in full bloom. Its sweet scent adds greatly to its value. It continues to yield a succession of bloom until late in the autumn.—**C.**

Aster alpinus.—In the account given last week of the alpine *Starworts* by "E. J." I am surprised to read that they require perhaps the least care of any plant in the open rock garden. I can only say that, though I have succeeded in growing and flowering admittedly difficult alpine subjects, I have not as yet been successful with these charming plants. Judging from the freedom with which *Aster alpinus* grows in the Dolomites, I surmise that it is a lime lover, and the account given by "E. J." prompts me to try a richer soil than is usually given to alpine. At any rate the alpine *Asters* are so beautiful that I must not acknowledge failure, but go on trying until I do succeed, as I have done at last in the case of *Gentiana verna*. It will probably prove that it is easier to grow this plant from home-reared seed than by importing plants from the Alps, the plan I have hitherto adopted.—**HERBERT MILLINGTON, Broms Grove School.**

Wintering Brompton Stocks.—As a rule cottagers grow the finest Giant or Brompton Stocks, the reason for this being that the seed is sown pretty early, fine plants secured, and if they survive the winter, grand spikes of bloom are produced the following season; whereas many gardeners, knowing the liability there is to damage or complete destruction from frost, sow later, pot off the plants say in August, and after giving frame or pit protection through the winter, finally plant in the open ground as soon as danger from frost is past. If large enough pots are given to this strong, free-rooting variety and spring planting carefully performed, good soil being

given, good spikes of bloom will be forthcoming, but not equal to those from strong autumn-planted batches, especially after winters like last. It is a good plan to plant some out in their permanent quarters and pot up others; by these means a blank is avoided. The finest Bromptons I ever saw were grown by a cottager in warm loamy soil in the sheltered angles of his cottage. He had saved these for years and the strain was grand. —J. CRAWFORD.

FUNGUS ON VIOLETS.

I WILL be obliged if you could tell me of any cure for the fungus on the enclosed Violet leaves. The Violet plants suffered from the same attack last year in the frames. —C. M.

*** Your Violets appear to be attacked by a fungus unfortunately too well known amongst Violet growers. Your plants are not very vigorous, and weakly plants more readily fall victims to disease. When once it sets in there seems really no cure, although its progress may be checked by careful airing and watering. There are market gardeners around Norwich who have had to abandon Violet culture altogether on account of the fungus, and a very successful private grower in East Anglia had his plants so badly attacked by the disease, that he was obliged to destroy them and procure a fresh stock from a distance. Since then his plants have, I think, been free from its ravages. I should advise the same course being followed in your case, the new plants or runners being planted in a fresh place, or if in a border occupied by the affected plants either last year or this, the old soil to be entirely removed to a depth of a foot or, better still, 15 inches, this being either burnt, so as to render it harmless, or buried, and replaced with a fairly retentive loamy soil, to which add freely either leaf-mould or spent Mushroom manure and road grit, mixing them thoroughly. The soil in the frame must also be removed and the wood-work painted, as to put fresh plants in without this renewal would be to court failure. In order to keep the fungus as much in check as possible and give the plants a chance of partly growing out of it, be careful in airing the frames throughout the winter. While checks from cutting winds must be guarded against, as much fresh air as possible must be admitted, and even on wet days tilt up the lights sideways so as to admit of a free current passing over the foliage. Water thoroughly when necessary, choosing a sunny, breezy day for the operation, but avoid constant dribbles, which keep the atmosphere overcharged with moisture. On foggy days, however, keep the lights quite closed rather than admit the obnoxious vapour. I have known plants of weakly growth to which no ball of soil could be secured when lifting have to be kept close for some time and syringed after being put into the frame. This treatment predisposes the plants to disease. *Bona fide* runners, rooted early by working fine soil amongst the plants in March or early in April, are far better than divisions of old plants planted out with wigs of roots. These may look more promising for a time, but they seldom do satisfactorily and generally lift badly. —J. C.

NOTES AND QUESTIONS.—FLOWER.

African Marigolds.—These have been for several weeks quite a show, and will continue till frost destroys them. When sown early, planted in good soil, and attended to with water in dry weather, they attain to 3 feet high and each give from six to a dozen large heads. When used as I now have them in masses in mixed hardy plant borders they are most useful. —DORSET.

Anemone japonica.—Opinions differ as to whether there are two forms of this. Some growers contend the difference arises from soil. I am convinced there are two forms of it. The one has much deeper-coloured flowers and more petals. The paler form is not worth growing compared to it. I was under the impression the soil caused the difference

till some eight years ago I received a plant of the better-coloured form. —DORSET.

Crocus speciosus.—This beautiful species—to my thinking the most lovely Crocus grown—is now flowering in my garden, and so fine is it that I may assume that the drought has not affected it injuriously in any way. When at Gunnersbury House a few days ago I noticed that Mr. Hudson had planted the small circular beds round the standard Roses in the flower garden with *C. speciosus*. There is no vernal Crocus I am acquainted with that can rival this fine autumn-flowering form for such a charming tint of blue, and yet how seldom one sees it in gardens, or even hears of it. It requires to be planted deeply in rich soil and let alone, taking care not to disturb it. It will do in sunless as well on sunny spots, but appears to come finest under a wall with a west aspect. —R. D.

TREES AND SHRUBS.

THE HAZELS.

(CORYLUS.)

JUST now, whilst it is autumn, the Hazels are noticeable chiefly for the rich yellow of the decaying leaves, and whilst there are other trees and shrubs whose autumn tints are brighter, there are few that retain their beauty so long.



Hazel catkins.

I can call to mind a large patch of planted Hazels that clothes the lower slopes of one side of a steep north-country valley and fringes the stream at its base, and when seen in "the sere and yellow leaf" from the summit of the opposite side it forms in its soft and quiet beauty one of the most characteristic and, therefore, satisfying English autumnal scenes I know.

Like the Alders, the Poplars, the Birches, and the Willows, the Hazels belong to the great catkin-bearing family, and of the shrubby catkin-bearers native of this country, the common Hazel (*Corylus Avellana*) is the first to flower. The male or pollen-bearing catkins appear in autumn; they are, indeed, already an inch or so long, little, dark, cylindrical bodies clustering in the axils of the leaves all over the plants, whilst the nuts of the current year are still hanging. Sometimes the male catkins will be in full flower before November comes in, but

that is premature. The proper time for them, and the time when most of them appear, is about the middle of February. Then, or it may be a little later, they grow to be some 2 inches or 2½ inches long, the anthers burst, and they become a pretty soft yellow. A Hazel bush, covered with its slender yellow catkins swaying gently in the breeze, is one of the most delightful pictures of early spring. The female flowers burst later and are less conspicuous than the male; they are produced in bud-like catkins which, when they open, disclose the crimson styles. The beauties of the Hazel flowers are only of a modest kind, depending more on their peculiar grace than on their colour. It is the season at which they come that makes them so welcome and cheering.

There is a certain individuality about the habit of the Hazel that makes it one of the most picturesque of our native shrubs. Its largest stems (often springing out of a thicket of slender wands) are mostly crooked and do not branch much till near the top, then ramify into an irregular, more or less bushy crown of leaves and shoots. It makes an admirable undergrowth. It has also been used for the making of arbours, pleached alleys, and such like. The covered walks that so frequently may be seen in the grounds of the old châteaux of France were often made of the Hazel. For such purposes the great pliancy of its branches, as well as its hardiness and longevity, admirably adapt it. It may by artificial means be made to assume the form of a tree. Loudon mentions trees of Hazel in Eastwell Park, which, having been drawn up by neighbouring Thorns, Crabs, &c., were upwards of 30 feet high, and had trunks 1 foot through. As a rule, however, it sends up a number of branches, none of which ever get very big. In consequence of its small size the wood is not of much value in manufactures, but it is sometimes used in the finer cabinet work. Large roots, too, furnish a very pretty veneering wood. The varieties of

CORYLUS AVELLANA are numerous, many of them depending on the size and shape of the Nut, the thickness of the shell, &c. Others, however, have no distinctive qualities as fruiting shrubs, but differ in habit, shape, and colour of leaf, &c. Of these the following are the more noteworthy:—

C. A. VAR. AUREA, with yellowish leaves.

C. A. VAR. CONTORTA.—This is remarkable for its curiously twisted, distorted branches. It was discovered in a hedgerow near Gloucester about thirty-five years ago, but it is still uncommon.

C. A. VAR. HETEROPHYLLA (syns., *C. laciniata*, *C. urticifolia*).—A very pretty variety whose leaves are deeply cut into numerous pointed lobes, these lobes being again sharply and irregularly toothed. This variety must not be confounded with *C. heterophylla*, a distinct species from Japan.

C. A. VAR. PENDULA.—This is a weeping form of the common Hazel, and trained up as a high standard makes a very graceful, small tree.

C. AMERICANA.—The common American Hazel differs but little from *C. Avellana* in general appearance. It has leaves and fruits of about the same size and character, and the shrub itself is of much the same type, but not so tall or sturdy in habit. It is a native of the eastern side of North America, being found in thickets and low, shady woods. It was introduced to this country in 1798 by the then Marchioness of Bute.

C. COLURNA (the Constantinople Nut).—This is noteworthy among the Hazels on account of its size, being the only one in this country that naturally forms itself into a tree. I have seen specimens upwards of 40 feet high, and Loudon states its height to be 50 feet to 60 feet. It is a native of the Levant, whence it was introduced to Britain in the seventeenth century, some time prior to 1665. It seems to have reached Central and Western Europe almost a century

earlier, having been sent to the botanist Clusius from Constantinople about 1580, possibly at the same time as the common Horse Chestnut, which first became known through him about that date. Its leaves are narrower than those of our native species and have more deeply-cut margins. The nuts are small, rounded, and covered with a large calyx, which is cut into numerous long, narrow segments and fringed. It has occasionally produced good fruit in this country and has been raised from English seed, but is of no value as a nut-bearer. At the same time it makes a very interesting and handsome tree. There is a good specimen not far from the main entrance to Kew Gardens about 35 feet high, the trunk well formed and straight, measuring 4 feet 6 inches in girth at 2 feet from the ground.

C. MAXIMA (syn., *C. tubulosa*) is the species that produces the Cob Nuts and Barcelona Nuts, which are distinguished from the Filberts by their thicker shells and more rounded shape. The plant itself is a native of Southern Europe and is of bigger growth than our native species. It has figured under various names, and by some authorities (including Loudon) has been considered to be merely a variety of *C. Avellana*. The present name was given to it by Philip Miller. It has many varieties, but the only one that concerns us as an ornamental shrub is the well-known

C. M. VAR. ATROPURPUREA (the purple-leaved Hazel). To those who are fond of shrubs with coloured leaves this may be recommended as one of the best of the purple ones. Its leaves are of a brighter shade than many of the same class.

C. ROSTRATA, the Beaked Hazel, is a native of Eastern North America. It is a bushy shrub, rarely more than 5 feet or 6 feet high, and chiefly remarkable for the curious hairy calyx, which is prolonged $1\frac{1}{2}$ inches beyond the apex of the Nut and forms a curved beak. It has fruited at Kew during the last few years. It was introduced to Britain by the Duke of Argyll in 1745. There are two other species in cultivation at Kew, viz.,

C. HETEROPHYLLA AND *C. MANDSCHURICA*. Both are natives of Japan and the neighbouring countries and have been raised from nuts sent by Dr. Bretschneider from Pekin. They are shrubs of apparently the same character as *C. Avellana*, and it is not likely they will prove to be of any greater value than it is. But at present there is nothing to be said on that point.

The Hazels are very accommodating plants and will grow in any loamy soil, preferring that, however, of moderate richness and of a calcareous nature. This matter of soil is more important where they are cultivated exclusively for the nuts, but the Hazel may often be made to serve its useful purpose as a fruiting shrub and play its part in the landscape as well. Every garden can grow the purely ornamental varieties mentioned above. Propagation of the true species should always, if possible, be effected by means of seed, or, failing that, layers. In planting *C. Colurna* especially, care should be taken to see that it is on its own roots. It is sometimes grafted on *C. Avellana*, which, being a shrub, is quite unsuited as a stock for so large a tree as this. The purple-leaved Hazel should be increased by layers or by division, methods that are also suitable for the other varieties. W. J. B.

Cotoneaster frigidæ.—This Himalayan species of *Cotoneaster* is a decidedly ornamental plant in the spring when laden with its clusters of white blossoms, but it is far more attractive just now when the flowers have been succeeded by fruits, which are about the size of small Peas and bright red when ripe. While many members of the genus are remarkable for their ornamental fruits, this is one of the best of the larger growing kinds. The berries remain fresh and bright for a longer period than they do in the case of many of our fruiting shrubs.—T.

Planting Hollies by roadsides.—I have often thought it a pity for young Holly trees to

be planted close to public roads in the vicinity of large towns, as they get damaged as soon as they arrive at a fruiting stage. This is especially the case for a distance of thirty miles round London. I know of some trees growing in the hedge of a churchyard facing the high road, and they are invariably damaged as Christmas approaches. One clergyman used to have the berries picked off when the trees were small, which, of course, spoiled their appearance. I have heard of young trees full of berries being cut off at the base and carried away entire. The same remarks apply, though perhaps in a less degree, to Laburnums, Lilacs, and Flowering Thorns.—C.

Ligustrum Walkeri.—"B." in a recent issue is deserving of all thanks for his outspoken remarks concerning the above weed. Like "B." I was astonished at so unattractive a plant receiving recognition of any kind, and must confess my surprise when I found that the first-class certificate was really no error of the attendant in placing a wrong card, but that the floral committee, or at least a majority of that body, had really made the award in question. So far as my judgment permitted, I could not see one redeeming feature in the plant, and it is doubtful whether those who voted the first-class certificate in question could really point out any merit in the plant at all. Something should be done to save, as "B." puts it, the honour of the society, and to make its awards of some real value in the eyes of the world of horticulture. At times the table devoted to plants for the committee to sit in judgment upon is simply loaded, and frequently things are brought to the meetings with the full knowledge that they are neither new nor rare, or even possessing any special merit, but simply because this or that has never been certificated at all. Quite recently an award of merit was given to *Hibiscus totus albus*, a plant that over and over again has been shown in full flower in large plants in baskets, yet finally meriting (?) recognition when half a dozen sprays were shown in a jar, the entire exhibit being about 8 inches high. Such doings cause one to wonder and to ask, What next?—A FELLOW OF THE R.H.S.

ROSE GARDEN.

ROSE Mlle. EUGENIE VERDIER (H.P.).

THIS Rose, one of the loveliest of the Victor Verdier race, has been exceptionally fine this autumn. Its bright flesh-coloured flowers and exquisite buds are attractive at any time, and the silvery white shade upon the reverse side of the petals appears to me to constitute a sufficient distinction between this Rose and Marie Finger, a variety with which it is bracketed as being too much alike by the National Rose Society. It may be that both varieties are not required in an exhibition box, but no one will regret adding the two kinds to his collection for garden decoration. Its growth is robust, not vigorous, but it will in a good Rose soil make a very fine bush, and is better adapted to this mode of culture than as a standard. It is a fine variety for pot culture. The climbing form is an excellent free-growing sort for pillars or fences. It is not a rampant climber like Climbing Jules Margottin, and its growth is rather stiff and formal, but yet it is very valuable for its colour. As might be expected from its parentage, Mlle. Eugénie Verdier is quite scentless, but, although we deplore this fact, it does not warrant us in discarding such a beautiful variety—at least not until it is superseded by a fragrant one.

Great confusion is caused in these "Verdier" Roses owing to the similarity of names, and to obtain what one desires it is very necessary to stipulate class and colour. For instance, there is the variety under notice. This was raised by Guillot in 1869. As the prefix Mademoiselle

is most often dropped, it makes it uncertain whether this variety is intended or one raised by the same individual six years previous, the colour of this latter being a deep red. Then, again, there are Mme. Eugène Verdier, a rose-coloured Hybrid Perpetual, and Mme. Eugène Verdier, a golden yellow, semi-climbing Tea Rose. To increase the confusion there are a Souvenir de Mme. Eugène Verdier, a very large, flat, bright rose, and also a Souvenir de Mme. Eugène Verdier, a lovely, nearly white kind belonging to the Hybrid Tea section. Then, of course, there are the old rose-coloured Victor Verdier, the crimson Mme. Victor Verdier, and another crimson Souvenir de Victor Verdier. It seems a great pity our French neighbours, through their excellent Rose Society, cannot do something to mend matters by asking raisers to give simple names of about two syllables to their Roses, and if they require examples, there is plenty among recent English and American novelties. PHILOMEL.

Red rust on Roses.—Would "S." who in your issue of the 17th ult. so kindly gave the readers of THE GARDEN his experience and a recipe against mildew on Rose trees, express an opinion as to a safe mode to extirpate red rust from Rose trees? This pest appeared among my Roses some two years ago, and all attempts to stop its ravages have thus far proved fruitless. The soil is dry during six months in the year, and has to be artificially watered very often. The atmosphere is parched during such months through a clear and cloudless sky, thus exposing the plants to a fierce sun for about fifteen hours a day.—MALTA.

Autumnal Roses.—What a wealth of bloom is often seen in autumn on well-established trees of Gloire de Dijon. Not many yards from where I write is a tree occupying the front wall of a cottage, and in August it was laden with blooms of good size and colour. Gloire de Dijon has justly been termed the poor man's Rose, thriving as it does in any kind of soil, and succeeding either as a standard, dwarf bush, or trained to a wall. Another good autumn Rose seldom seen now-a-days, but which deserves a place in every garden, is Souvenir de la Malmaison. It is not of exhibition form, perhaps, but of delightful colour and fragrance, being of a lovely pale flesh shade, strong shoots on large bushes furnishing a wealth of bloom over a long period in autumn. This old Rose, though somewhat stiff, has a good effect arranged by itself in large vases. It is a capital grower, and where room can be spared in the Rose garden it deserves a bed to itself.—NORWICH.

Tea Roses in the flower garden.—At the end of the summer I called at Honeycott House, near Minehead, and when walking round the flower garden was struck with the number of hardy plants used. Some long beds were devoted to Tea Roses, with Mignonette growing amongst them. The Roses were full of flowers and growing very freely. Evidently the soil, a sandy loam, suited them. A few of the best in bloom at the time of my visit were Anna Ollivier, Comtesse Riza du Parc, Dr. Grill, Grace Darling, Homère, Luciole, Isabella Sprunt, Mme. Charles, Mme. Lambard, Papa Gontier, Safrano, Perle des Jardins, and Catherine Mermet. The situation is sheltered from the north and east by big trees, and not more than a mile from the sea. Where this lovely class of Rose will thrive in this way, nothing is more useful for the flower garden.—J. CROOK.

Autumnal Rose shows.—The recent splendid displays of Roses at the Drill Hall meetings of the Royal Horticultural Society show what one might expect if Rose societies organised autumnal exhibitions. It is true the drought has been responsible for somewhat thin blossoms, but there has been a glorious profusion. I think Rose societies should encourage the general public to take up Rose growing for its decorative possi-

bilities rather than from an exhibitor's standpoint. They do not wish to become exhibitors; they want to know what to grow and how to grow it, and the fat, dressed-up blossoms at the summer shows only tend to dishearten the non-rosarian, for he knows full well that he can never hope to produce anything like them. But show him a bunch (not artificially dressed) cut with all the buds of such kinds as Caroline Testout, Viscountess Folkestone, Mme. Hoste, G. Nabonnand, Camoens, Marie d'Orleans, Mme. Abel Chatenay and the like, and tell him such kinds are practically perpetual and of easy culture, then may new recruits be added to the ranks of Rose growers.—PHILOMEL.

Roses White Pet and Red Pet.—These are both excellent garden Roses. The former is by far the showier variety, its immense corymbs of blossom being probably unsurpassed by those of any other dwarf Rose. The flower is almost an exact counterpart of that of the grand old climber *Félicité-Perpétue*, and everyone knows what a delightful little rosette each flower of this Rose makes. White Pet is almost as attractive in autumn as it is during the summer; whereas *Félicité-Perpétue* is summer-flowering only. The delightful tiny crimson buds, no larger than peas, give an additional charm, and are brought into much prominence when seen peering from among the white blossoms. There is no better white Rose for small pots, and market growers employ it largely for this purpose. The Red Pet has not much in common with the above, as one might suppose from its name. Its colour is rosy crimson, the inner petals having paler edges, but the older blossoms change to quite a maroon colour. The flowers are not borne in such large trusses as in White Pet and they are not so perfectly formed.—P.

Rose Perle des Jardins.—This variety is certainly the best of all the dwarf-growing yellow Teas, the blooms, although not large, being very double. It has also lovely formed buds which find a ready sale. For the private grower this Rose would be found most useful where a constant supply of blossom is required. Even if a small house were devoted exclusively to it it would be found to well repay for the sacrifice, especially if the plants were planted out. Such plants will last for many years, and will eventually become in a good Rose soil immense bushes a yard or more through. In some localities this Rose succeeds well outdoors, but it is not a general success. It appears to require a steady artificial heat. *Perle de Lyon* closely resembles this Rose, but its blooms usually come quartered. It really is not necessary to have both varieties, and certainly *Perle des Jardins* is the better. It has given a delightful sport in *Sunset*. The colour is rich apricot, something in the way of *Mme. Falcot*. The climbing form of *Perle des Jardins* is a most luxuriant grower. It is unfortunately rather tender and much addicted to mildew outdoors, but, given a sheltered spot and a good root run, it should prove a valuable kind where *Maréchal Niel* fails. Under glass it would make a grand climber for lofty conservatories or greenhouses.

Yellow climbing Roses upon standard Briers.—Probably no varieties of Roses give such satisfaction upon standard Briers as do the climbing Tea-scented and *Noisette* tribes. They produce graceful arch-like shoots in such rich profusion that all formality is absent. This is not the only advantage of thus growing these Roses. One cannot well have too many yellow Roses. The demand for them exhibits no sign of abating, and if this be so, where can we look for them save among the so-called climbing kinds? Should wall space be limited, it is an excellent plan to have a goodly number of such standards. Give them ample space for development and feed them liberally with liquid manure; they will then make most beautiful objects either for beds skirting the lawn or as isolated specimens. In pruning them it must be borne in mind that the long one-year-old growths, if well ripened, give the best and most blossom, therefore they must

be left a good length. If the plants are lifted every four or five years their somewhat over-luxuriant growth will be partially checked and the quality of blossom greatly increased. Everyone knows what a fine standard *Gloire de Dijon* makes. In many respects this Rose is unsurpassed for the purpose, although for refinement of blossom it is eclipsed by *Belle Lyonnaise* and *Bouquet d'Or*, the latter one of the best and most reliable yellow Roses grown. *Le Soleil* is also good. It is wonderfully like the white *Maréchal Niel*, which is not white, but the palest creamy yellow. In the autumn the edges of the petals of *Le Soleil* have a beautiful tinge of carmine. *Mme. Berard* is another excellent kind, and although it can hardly be called yellow, it is generally classed among Roses of this colour. Its lovely rosy apricot buds are invaluable for cutting. Then there is *Celine Forestier*. What a delicious shade of primrose-yellow we have here! It flowers best upon lateral growths; these should therefore be preserved when pruning. Then again there is *Maréchal Niel*. Given a sheltered nook this will make a glorious weeping tree. It is advisable not to have the stem too tall; about 3 feet high is best. If very severe weather threatens, the heads may have some slight protection.—P.

PRUNING TEA ROSES.

I WOULD be obliged if a Rose grower would tell me if it is best to prune the Tea Roses severely or not. My own experience would dictate that most of the Tea Roses require very little pruning, but my gardener insists on pruning them severely every year, and though they flower pretty freely, the plants remain very small and stunted. Some of the more vigorous growers, such as *Mme. Nabonnand*, *Gloire Lyonnaise*, and *Mme. Lambard*, seem to throw up stalwart growth, but most of the plants seem to succumb to the severe treatment and to remain extremely small.—D.

* * In our country the question of pruning in all hard winters is settled by the Tea Roses being cut down by frost. If on their own roots or grafted very low, and the junction of the graft and stock buried, they escape and come up again; so in this way the pruning is simplified. In mild winters when not affected by frost, they must be cut back so as to remove all the small shoots that in many kinds break into too many buds, but this need not be done severely. The cause of some of the kinds being very small is their being worked or grafted on the *Manetti* or some other unsuitable stock. As we go now, every Rose is grafted in the same way, so that if the Rose does not like the stock, it must make the best of it. If the Roses are worked very low, sometimes they free themselves. We are continually being told by the trade that Tea Roses will not grow on their own roots, which anyone who cares about Roses can disprove for himself by taking some of the good half-ripened wood of the best kinds in September or October. This will often strike in the open air with success. A greater number need bell-glasses or hand-lights. Such kinds as *Princesse de Sagan*, *Mme. Hoste*, *Georges Nabonnand*, *Anna Olivier*, and *Gloire Lyonnaise* are among the best kinds ever brought to this country, and might be taken for trial in this way.—Ed.

NOTES AND QUESTIONS.—ROSES.

Rose Marguerite Boudet (H.P.). What a pity this free-flowering Rose is not a better grower. Its exquisite form is its strong point, and for this reason it is a favourite with exhibitors. I believe it has more than once secured the silver medal as the best H.P. in the show. The colour is delicate silvery white, shading to pale lilac in the centre. This Rose is said to be a cross between *Victor Verdier* and *Virginal*, and it certainly bears a striking resemblance to the former in bud.

Rose Louise Darzens (Hyb. *Noisette*).—This excellent little Rose, introduced by Lacharme nearly forty years ago, is very distinct even among the dozens of white varieties already in commerce. Although

for all practical purposes the flowers may be termed white, yet there is a charming tinge of flesh-pink pervading their petals. The habit of growth is rather spreading, so that if plants are set out 2 feet apart they quickly meet each other. The flowers, which are double and regularly formed, are produced in fair-sized clusters, and like the whole of these Hybrid *Noisettes*, they are very freely produced during the autumn months.

Rose Ferdinand Batel.—Further acquaintance with this beautiful Hybrid Tea strengthens the favourable opinion formed of it when under glass. Its delightful colour pleases everyone who has seen it. There is much of the rich nankeen-yellow in this Rose that is so conspicuous in that fine climber *Mme. Chauvry*, and this colour is intensified in autumn in the flowers borne upon the secondary shoots. The edges of the petals, moreover, are of a pale chamois-yellow, which is an additional attraction, as it lightens up the flower immensely. In the early summer the blossoms vary in colour from rosy flesh with yellow base to rich apricot-yellow.—P.

STOVE AND GREENHOUSE.

RIVINA HUMILIS.

I AGREE with all that "T." says as to the value of this fine old berried plant, which should never be trained out of its lovely growing natural habit. As to varieties, there are none in cultivation comparable to the type. The yellow-berried *Rivina flava*, for instance, is hardly worth growing in comparison. From its character and habit, *Rivina humilis* is one of those plants that should never be grown in quantity in larger than 6-inch, 7-inch, or at the most 8-inch pots. Of these three sizes, the smallest are the best. In the few gardens where the graceful scarlet-berried shoots are appreciated for the decoration of baskets, vases, and dinner-tables, it is a good plan to furnish the gable end of plant stoves with *Rivinas* planted out in two parts of fibrous loam and one of leaf-mould. The plants grow, flower, and berry freely in a heat of from 65° to 75°. Permanent plants of this sort look very attractive in winter when covered with scarlet berries, which have earned for the plant the popular name of *Bloodberry*, or *Rouge Plant*. These planted-out stock plants are also exceedingly handy for furnishing cuttings at any season of the year, and also have a very striking effect when their shrubby stems and berried racemes are allowed to scramble up pillars or rafters, and droop back, which they mostly do, in abnormal profusion towards the floor.

Dwarf bushes on side or overhead brackets are also very bright. The *Rivina* also readily lends itself to growing into loose pyramids. "T." is quite right in saying the plants are most freely propagated either from seeds or cuttings. However, most growers prefer cuttings, as saving a good deal of time and favouring a more uniform and more densely berried plant.—D. T. F.

—"T." (p. 299) does well to notice this too-little-grown plant. Its value is enhanced by its being in full beauty at a somewhat dull season of the year. As "T." observes, the plants, though doing well enough in a warm greenhouse up to a certain date, must be removed to warmer quarters before cold nights have turned the leaves yellow. When the pots are full of roots, a liberal supply of weak liquid manure is necessary to prevent the lower leaves giving way. In a conservatory the temperature of which can be maintained at from 55° to 60°, this plant is most serviceable placed amongst Ferns or graceful foliaged plants. I have seen it used with capital effect in dinner table decoration, as, for instance, when a *Cocos* is placed for a centre-piece, small plants

Rivina being arranged in a mound of Moss at the base, this being furnished with light Fern fronds. The plants are useful for placing in receptacles in the drawing-room, but they must not be left there more than a few days, or the berries will fall.—NORWICH.

The Eucharis mite.—A good many remedies have at different times been prescribed for the dreaded Eucharis mite, some of which take a good deal of preparing. Mr. Webb, the gardener at Kelham Hall, Newark, has found the best and most lasting cure in merely sprinkling fresh soot on the surface of the soil and watering it in. Only a little is applied at a time. A good-sized batch of plants affected with the pest being so treated was cleared of it in a very short time, the foliage afterwards becoming vigorous and the colour improved.—C.

Double-flowered forms of Begonia semperflorens.—In his autumn catalogue M. Lemoine announces the disposal of four varieties of Begonia semperflorens with double flowers, which are in all probability destined to become the forerunners of a popular class, as several single-flowered varieties of this Begonia from the same source, particularly B. semperflorens gigantea and carminea, are very largely grown, and now double flowers are once obtained great improvements on these early forms may reasonably be anticipated, especially when the results in the tuberous-rooted section are borne in mind. The varieties sent out at the present time are Boule de Neige, clear green foliage, large double flowers, pure white, sometimes slightly edged with rose in the open ground, stamens clear yellow; Gloire du Montet, foliage slightly bronzed, flowers double, petals imbricated, rose-lake, buds carmine; Nancy, leaves deep green, flowers medium size, double, soft rose, stamens chrome-yellow; Triomphe de Lorraine, foliage bronzed or reddish green, flowers with imbricated petals of a carmine-cerise colour, with scarlet buds.—T.

Tree Carnations.—What a pity it is so many alike Carnations are sent out under different names. One is apt to buy a much lauded variety, watch its progress with interest until it flowers, when he finds out he has had it in his garden perhaps for years. Mme. Thérèse Franco is now generally considered the same as Mrs. Leopold de Rothschild. This was to supersede Miss Joliffe, but on my first seeing it growing I did not think it would. It is of a somewhat wiry habit, and does not make grass enough to produce what a grower for market would call plenty of bloom. Still it is a useful Carnation for the private garden, and one thing in its favour is its long season of flowering, producing a few blooms late into the spring. It is very useful not only on account of its colour, but also size for button-hole work. I do not think the idea of some that the well-known scarlet variety Alegatière is wearing out is correct. Not long since I saw a fine lot of plants producing in quantity large, full, highly-coloured blooms, very few having any trace of the white flake, and borne on long stems. Many now-a-days seem fond of giving heat to winter Carnations, but this soon weakens and spoils the stock.—C.

Saintpaulia ionantha.—There is a great sameness in the plants used for the margins of greenhouse and conservatory benches, and the choice of suitable plants for the position is generally confined to fine-foliaged plants and grasses, so that any addition, especially in the form of a free-flowering plant, to the list is acceptable. The Saintpaulia is just the plant wanted for this purpose, for it does best in small pots, is neat in growth, and lasts in flower quite late into the autumn. It is easily raised from seed, and though a little inclined to be miffy at first, though not so much so as Streptocarpus and some others that might be mentioned, it soon grows out of the delicate stage and becomes a charming little flowering plant, quite out of the common. It may be grown in pans, several plants together or singly

in pots up to 6 inches in diameter, but it never is more pleasing than when grown in 3-inch or 4-inch pots, as its growth is very dwarf and suits a small receptacle best. The flowers of the type are deep blue, but there are at least two varietal forms—S. i. celestis and S. i. rubra—the former sky-blue and the latter ruddy purple. The plants like a little shade from bright sunshine and are quite at home in houses devoted to the ordinary run of flowering plants shaded to preserve the flowers as long as possible.—J. C. T.

ARUM LILIES TURNING YELLOW.

I QUITE agree with the remarks on the subject by "J. C. T." (p. 300) and of the causes mentioned. The undue mutilation of the roots at lifting time is calculated to do a large amount of injury—injury that cannot be easily or even quickly remedied, inasmuch as the plants have of necessity to exist on their stored-up energies till either new roots are formed or fresh root-fibres are produced on the main roots broken through lifting. This is always a drawback to the planting-out system, and its danger is naturally increased when the plants are very forward in leaf-growth before lifting takes place. It is evident "E. A. T.'s plants were vigorous before lifting was attempted, and, no matter how carefully the work is done, there is always a considerable loss of roots. I do not in the least understand why "E. A. T." placed his plants after potting "into a shed for a few days," for surely no more uncongenial surroundings than this could possibly be chosen for freshly-lifted and recently-potted plants. Robbed of light of the right sort, and what is equally bad probably, exposed to draughts also, I am strongly of opinion that the check causing the trouble began in the shed referred to—the very worst possible substitute for a cool greenhouse that could be conceived. Far better that the plants had flagged in the ordinary greenhouse, for then with the aid of the syringe recovery would have been more quick and more complete. The atmospheric conditions of air, &c., for these moisture-absorbing subjects are not easily imitated in a shed, and the chilling influence of such a place during many of the cold, frosty nights so recently and generally experienced would undoubtedly have an equally chilling influence on the plants. An excellent place for recently lifted plants of these Arums is a cold pit, and having given one good root watering at the time of potting, endeavour to maintain the foliage in a moistened state for several days. Over-much root-watering when the roots themselves are comparatively inactive is an error, and had the leaves been kept in a more or less moistened condition, the failure now complained of would possibly not have occurred.—E. J.

—Rottenstable-yard manure, which "E. A. T." says he added to the soil when potting up the Arums, is a most uncertain compound alike in quality and quantity. It might prove the most powerful stimulant, the most wholesome food, or an arid poison to the roots. Anyhow, the Arums did not need nor could they use it at that stage. Up to lifting, the roots had had ample supplies of food, we may safely assume. They were suffering if at all from a surfeit; they could not have had too little food. And then all of a sudden the roots were lifted and offered a new bait, compounded of a half, or a third possibly, of stable-yard manure. Is it any wonder that the roots failed to act and the leaves turned yellow? Wounded roots hate stable manure. Had some sweet leaf-mould been added to the loam there would have been no yellow leaves. If the Arums had been potted up at once in the soil that they had grown in through the summer all would have been well with the roots, and the leaves have remained as green as Leeks. It is always a mistake to offer fresh and rich food to lately disturbed or wounded roots. Better cut off the supplies by running a sharp spade round and under the Arums a week before potting them up. After they have got over the check incident to potting, it is easy to feed the roots or top by top-dressing or liquid manure to any required

extent. The plants were put into a shed for a few days. Who shall describe the cutting draughts, the heat or cold, the wetness, the parching drought, the light or darkness of the shed? The whole shed incident is one of mystery, and almost certainly one of dire mistake. It is not even recorded that they were sprayed overhead or watered at the roots. We are told they were well watered with plain water and kept in a greenhouse. But this was after they came out of the shed. Nothing is said as to watering or otherwise treating them before standing them in the shed or during their stay there. From the fact that all the plants, with one exception, are now looking sickly and turning yellow, and have never recovered from the potting which was done some three weeks ago, I have the strongest suspicion that the trouble arose in the shed.—D. T. F.

GARDEN FLORA.

PLATE 1194.

EVERLASTING PEAS.

(WITH A COLOURED PLATE OF LATHYRUS PUBESCENS.*)

ADMIRERS of hardy flowers cannot afford to overlook the Everlasting or perennial Peas. Lathyrus odoratus, the annual Sweet Pea, exquisite as it is in form and colour, and pleasing as it is because of its fragrance, cannot be used in all positions. Even if it could, our desire for variety would induce us to grow its congeners of perennial habit. The best known of the perennial kinds are Lathyrus grandiflorus and L. latifolius. In some districts the former is very common, almost, indeed, to the exclusion of the latter. In other places the position is reversed and the broad-leaved Everlasting Pea is more largely grown. Were I asked which of the two I prefer, I should decline to say. Each has its uses and its beauties as well as its failings, and both may be grown with advantage in our gardens. Descriptions in a contemporary a few years ago of three new Everlasting Peas from California led me to seek to make their acquaintance. This I did through the kindness of Mr. W. E. Gumbleton, who sent me plants of each, viz., L. latiflorus, L. sulphureus and L. violaceus. Unfortunately, none of these has proved a success in our climate, and I have not flowered them, although L. sulphureus survived for some two or three years beside a warm wall. I believe they have been a failure at Queenstown also, so that I fear we shall have to content ourselves without them. For hybridising I should, however, think these Californian Peas would be likely to prove valuable.

LATHYRUS GRANDIFLORUS.—The great fault of this, which has the finest flowers of all our hardy Peas, is its running habit at the root, which soon makes it obnoxious in some positions where it has been planted without full consideration. It is, I think, seen at its best rambling over a hedge or growing on a trellis, covering either with its fresh green leaves and its bright flowers. I know one of those cold, hard, unsightly iron railings still too often seen in gardens which is in summer beautifully draped with this large-flowered Pea, which veils its ugliness with bright colouring. It seems to me, too, that L. grandiflorus is less needful of sunshine than some of the other species. I know a hedge some 20 yards long which only receives a few hours' morning sun, and this is covered every summer with the large flowers of this Pea. Like others, it appears to prefer a poor and rather dry soil. So far as I am aware we have as yet no pronounced varieties

* Drawn for THE GARDEN by H. G. Moon from flowers sent by Mr. S. Arnott, Carsethorn, Dumfries, N.B. Lithographed and printed by J. L. Goffart.



of this fine Everlasting Pea. It produces seed but seldom in the south of Scotland, so that one has had little opportunity of testing its constancy from seed. Rarely, however, is it seen with more than two flowers on a peduncle. Very distinct from *L. grandiflorus* is

L. LATIFOLIUS. It does not run at the root and is not so easily increased. Its flowers are produced in racemes, and in some districts it is well known as the Cluster Pea, to distinguish it from *L. grandiflorus*. It is a fine plant for similar purposes as its congener, and, like it, appears to enjoy the dry soil at the roots of a hedge or shrub. When once established in this medium it grows vigorously, and I have it on a sunny hedge in dry soil growing some 9 feet or 10 feet high, and freely producing large bunches of bright pink flowers. This colour may be said to be the normal one, but, unlike *L. grandiflorus*, the broad-leaved Pea has become subject to the law of variation, much to our gain. Some charming white varieties exist, and from this there are shades passing from blush to almost crimson, and a striped variety also. Some of these have received names, and seed has been sold of these



Lathyrus latifolius albus.

under name. I regret to say that the colours do not yet appear to have become fixed, and, much to one's disappointment, from the same packet several shades have come. Perhaps we may consider this a gain. Among my seedlings from Italian-grown seed is a pretty white one tipped with pink. Where well isolated from other colours, seed from the white variety, *L. latifolius albus*, yields a large proportion of white flowers. *L. latifolius* seeds very freely, but in order to prolong the bloom, it is desirable that the decaying flowers should be picked off. If anything,

L. TUBEROSUS is even more pronounced in its running habit than *L. grandiflorus*. It is also one of the plants for which slugs have a preference, and as it is less ornamental than either of the foregoing, I am quite pleased to be without its rose flowers. *L. tuberosus* is easily raised from seed.

L. DRUMMONDI is a beautiful Everlasting Pea, and I recollect how pretty I once saw it on an old

gnarled Apple tree, where its bright carmine flowers looked exceedingly well among the branches. It is one of the Cluster Peas, and can be readily raised from seed. It is also of robust character and admirably suited for growing on hedges.

L. SIBTHORPI I have not grown, but have admired its rosy purple flowers. As it grows little more than 3 feet or 3½ feet in height, it is of value in places where the more rampant growers would be out of place.

Some seven or eight years ago I came across an Everlasting Pea named

L. ARMITAGEANUS in a catalogue. At Kew this is considered synonymous with *L. magellanicus* (Lord Anson's Blue Pea), and as I much wished to have this, I procured a plant. I have never seen the plant grown at Kew as *L. magellanicus*, and the last time I visited the gardens neglected to look for it. The description in the "Dictionary of Gardening" is, however, quite unlike that of the plant I have as *Armitageanus*, which is a poor-coloured and small-flowered Everlasting Pea. It may not be out of place to remark that the seeds generally offered as those of Lord Anson's Blue Pea are only those of the annual *L. sativus*. A Pea known as Lord Anson's was in cultivation in Ayrshire years ago, but Mr. James Service, of Maxwelltown, Dumfries, who knew it there, has ascertained that it is no longer in the garden in which it grew when he was there. The nearest approach in colour I have yet seen to a blue in the Everlasting Peas is in

L. PUBESCENS, figured in the accompanying plate. The pubescence on the stems and leaves it has been impossible to reproduce. The plant from which the flowers were cut was the only one out of several raised from seed which escaped the ravages of slugs when in a seedling stage. It was planted out in 1896, I think, against the s.-w. gable of an outhouse and on a trellis. The soil is light and the position a dry one. It came into flower the following June, its sole protection in winter being a few old stems and branches of Michaelmas Daisies over its stems and roots. The same protection was afforded last winter. This year it came into bloom very early in June and continued in flower for some time, although my allowing it to seed this year shortened its flowering season. It is of a semi-shrubby habit, growing about 6 feet high here, and produces some of its shoots from the old stems. The seeds ripened this year, and it may save trouble to say now that they have passed from my hands by arrangement. I had an impression that I obtained the seed originally from Mr. W. Thompson, but I cannot see it quoted in any of his catalogues in my possession. The charming colour of this Pea, which is a native of Chili, will render it acceptable to many. Should it prove hardy with others, as one has reason to expect now that so many Chilean plants survive our winters, it will be an acquisition to our gardens, and may, moreover, be one of the factors in giving us colours and tints yet unknown in our hardy Everlasting Peas.

S. ARNOTT.

Cursethorn, by Dumfries, N.B.

Vitis inconstans.—Very lovely just now is this well-known creeping plant, and with all looking dull around it we admire it the more. The upper part is still of the brightest green, the centre of varying shades of red, the older leaves becoming a deep bronzy purple. All these shades are prettily graduated, and what looks fine at a distance is even more beautiful on closer inspection. Even in winter after the foliage is gone the delicate tracery of the clinging stems over old mullioned windows is charming. This creeper is one of the very best for hiding unsightly walls or for covering old mansions, its free-growing character enabling it to soon cover a large space, and what is of still greater importance, it thrives in any description of soil or situation. In very shady places it will not, of course, take on the same beautiful tint in autumn as it does in positions more exposed to sun and air, but even there

it is attractive. It is always best to give the young plants a start by digging out a couple of barrowloads of the old soil if worn out and replacing it with good new compost. They may be planted either in spring or autumn, the latter for preference. Young plants are easily raised from cuttings of the half-ripened shoots, these being taken about 6 inches in length and rooted in pots in a close frame in late summer.

THE WEEK'S WORK.

KITCHEN GARDEN.

CROPPING THE LAND.—Much may be done at this season as regards the preparation of the soil for next season's crops. With gardens of limited extent, and where there is a heavy demand, there cannot be the needed rotation of crops. Much may be done at this season to determine next year's crops and prepare the soil for the same. In my case, having a large acreage under cultivation, I can rest a goodly portion. By resting I mean giving an entire change of crop. By so doing one can always give more thorough cultivation. Garden land so soon sickens of such crops as Cauliflowers, Cabbages, or, indeed, any of the Brassicas, that it is well to change the quarters as often as possible. It is not possible in the case of sheltered borders. I have a border that has furnished early Cauliflowers for at least forty years. This is under a south wall with a glass range in front of the border. To get good crops I am obliged to occasionally give a good coating of fresh soil, and dress freely every autumn with lime, soot, wood ashes, or other materials. By doing so there is a good return. I always endeavour to study the summer crop, as this is important. I only grow salads or such plants as are soon cleared, so as to allow of good cultivation for the winter subjects. In many gardens a change of crop may be given, even with sheltered borders. Peas or early Potatoes may follow Cauliflowers. Open quarters now cleared may be dressed for the next crop. I always determine now what crop shall occupy the quarters next season, as, by so doing, the work is easier. Roots do not need fresh manure. These may follow a crop that has been well manured. Onions may follow early Celery if the land is well exposed. Celery will follow early Cabbage, which next autumn will occupy the Onion quarter. Some vegetables, such as Brussels Sprouts, need deep rich soil. Peas, French and kidney Beans need generous treatment. The heavy soil should be reserved for Broad Beans and for summer crops needing a holding soil.

MANURING SOILS.—With the ground in better condition after the much-needed rain, the cultivator will do well to prepare the same for next season's crops. At no time of the year can the soil be improved so well as at the present. I am greatly in favour of autumn digging, especially in light soils, as if turned up roughly now it is sweetened for the crops. Many who are anxious for the best results have been disappointed by trenching some soils too deeply. In many gardens the subsoil is so poor that when deeply trenched and brought to the surface it does harm, as the roots do not reach the better or deeply buried soil. Trench or double dig such soil, but do not bring the poor, inert soil to the surface; keep it where it is, place the manure between the two spits, and dig the lower one as deeply as possible. Where animal manure is none too plentiful, my advice is to dig now and feed in the spring, using fertilisers freely during the growth of the crop. Heavy clay land needs more care, much depending upon its condition, the crop it is to carry, and other details, as some very wet, heavy land is best left till needed for the crop. Many soils are badly infested with wire-worm, this attacking the crop just when least expected. For this I have found nothing better than a good dressing of gas-lime at this season, spreading it, if fresh from the works, on the surface for a few days before digging in. A few

years ago I had an instance of the great havoc wireworm caused in a short time. A lot of turf was taken from an old pasture to enrich an old kitchen garden. The turf was a mass of wireworm, and for two years the crops were poor indeed till gas-lime was used in good quantities in September and the soil not cropped till spring. Ordinary lime, soot, and wood ashes are excellent. These may be used and a crop follow immediately. I fear after the drought last summer garden pests will be so numerous that it will be well to pay more attention to their extermination. I have suffered badly from clubbing in several of the Brassicas, and the dressing advised for the wireworm will apply here. Gas-lime used in moderate quantities in the autumn and winter will clear the soil, and at the same time if charred refuse, old mortar rubble, or lime can be given as a top dressing, it will do more good than rank animal manures. Land cleared of exhausting crops that root deeply will be greatly benefited by being turned up roughly before winter, and in manuring it will be well to study the crop to follow. Now is a good time to make use of any good soil there may be at hand. This spread over the surface after digging will be beneficial. A good supply of decayed manure should be at hand. Other manures should be turned and prepared, and if at all dry, liquid from stables will cause rapid fermentation.

PROTECTING TENDER PLANTS.—To eke out the vegetable supply it will be necessary to protect those plants at all tender. It is full early to lift Cauliflowers; indeed, I do not advise doing so, as owing to the drought the growth of these plants is much later than usual. I find it a good plan to tie up rather loosely the leaves over the flowers. This will ward off several degrees of frost and prevent the heads being spoiled. Peas grown in frames so far have done well. These need ample supplies of air, so that free ventilation is necessary both night and day. If mildew is at all troublesome dust with sulphur. French Beans will be benefited if more warmth is given. It will be advantageous to cover the glass at night if the frames are much exposed. So far there has been no break in the supply from open borders. These will continue to bear if given protection at night. I think Beans grown thus or in frames far more valuable than those forced hard, as the crop of the latter between now and the end of the year is not a profitable one.

STORING ROOTS.—In many gardens the orthodox way is to lift Carrots at the end of this month and store. No matter how mild the season, the roots are lifted in full vigour, the result being they grow out and lose flavour, and by the end of March, often earlier, are useless. My advice is to leave the roots in the soil if the land is light and well drained; if otherwise, I would lift much later and place in a clamp in preference to a dry store. Carrots are quite hardy. For the past half dozen years I have always sown in July for winter and spring use, and the plants have not suffered during severe weather. It may be said that in severe weather it is a difficult matter to lift roots. This I admit, and it may be well to be prepared by lifting a few in advance, or by covering the surface with litter. Beetroot is not nearly so tender as often thought. I allow mine to remain in the growing quarters till November is well advanced. The greatest difficulty is that too much moisture causes the roots to split if they are at all large. It is much better to store in soil or sand if under cover, as if the air can circulate round the roots they shrivel badly. The best store is an underground cellar just free of frost. Such roots as Salsafy and Scorzonera suffer more from wet than frost, and it is necessary to lift on this account. There need be no hurry, as the plants are still growing freely. These roots need much the same treatment as Beetroot in the winter, though in some favoured localities they will do well in the open ground. Turnips, I fear, in many gardens are none too plentiful this autumn. In my case, owing to the drought, it was a difficult matter to get the seeds to germinate. Turnips do much better in the open

ground for some time yet, though it is not advisable to leave very large roots. These may be clamped, as they soon lose flavour. I do not advise large Turnips for storing or winter use. Those the size of a cricket ball are much the best, and unless the supply is short, I would place coarse ones on one side. The yellow-fleshed kinds winter grandly, and in very severe winters I have found the white roots keep well by merely drawing up soil round the roots. S. M.

FRUIT HOUSES.

FRUIT TREES IN POTS.—These, which if potted when advised, will now have become settled down in their fresh pots, with root-action again on the move. In my own case they are promising well, the wood showing every sign of being fully ripened. The leaves have all fallen during the past ten days, having assumed prior to falling those beautiful tints one likes to see. The trees are now housed owing to the rather continuous rainfall, too much of which is decidedly prejudicial to the early-forced plants in particular, as it also is generally to the rest if care be not taken. For the present the early trees are stood rather closely together from want of room, but this is immaterial with a thorough ventilation always going on around them. There is a slight warmth in the pipes to prevent a too humid condition of the atmosphere. After the soaking these trees had before being housed they will not require any water for some time to come. When it is seen that they are becoming dry on the surface, they may be examined and sounded, paying the closest attention to those in proportionately small pots. If these trees are not started before the new year or thereabouts, it is a good plan to work some dry stable litter in around the pots when the trees are brought in. This will prevent them becoming dry upon the surface when, perhaps not so, lower in the ball. Do not do any pruning yet, but rather leave it until starting-time, and then only foreshorten such shoots as have prominent fruit-buds at the bases of the shoots.

LATER TREES.—Those from which the crop has not long been taken should all be potted up by the end of this month, or at the latest by the middle of November. I hope to complete it before this is in print if possible. The same course is pursued as with the early ones in every particular as regards potting and soils, but these later trees will, as soon as they have had a good watering, be placed in a sunny position. Mine, from want of room, are stood upon the Vine border, no more water being given, therefore no harm can well be done, the pots being stood upon bricks to keep them well off the soil with stable litter closely packed between the pots, but with more around the outer ones, against which boards are placed for greater convenience in keeping the litter in its place. Here the trees will remain until showing signs of making a move in the spring, being safe against harm from frost. If I had an absolutely cold house without any piping I should prefer to house these also, but it is not of very material consequence. Retarding in the case of late trees is what has to be aimed at, and this is accomplished by keeping them outside. If trees have been lifted from the borders and transferred to pots, then it is a safer and better plan to house them for the first season.

EARLY FIGS IN POTS.—These have also been housed for some ten days or so, owing to the rains and in order to save any further trouble with them as regards protection when frosts come. A selection will now at once be made of the most promising-looking plants for first early forcing. These will be calculated as started from November 1 in order to have ripe fruits by March 1. This is earlier than usual in some establishments, but as the Fig is highly esteemed, the plan is adopted, knowing that some amount of risk is run. In selecting St. John and Pingo de Mel, however, the risk is reduced to a minimum, as these varieties are not nearly so much disposed to cast their fruits as other and older kinds, valuable

for later work as these latter are, but the two just named are by far the best for first early forcing in pots. I do not advise either of them to be planted out, being doubtful as to their behaviour under such conditions. They are vigorous growers in pots, but owing to restriction at the roots, they succeed admirably. Planted out they would in all probability grow too luxuriantly unless in quite a restricted border. The same treatment as that accorded to early Vines in pots will be followed, the syringe being used freely. For the first fortnight no bottom-heat will be given, and then only to a moderate extent before another fortnight has elapsed. The night temperature will range at 50°, and that for the day at 65°, and 70° when favourable. A careful sponging or brushing with a soft brush will be resorted to, using Gishurst compound (or any other insecticide if that be not available) at the specified strength as a safeguard against red spider and possibly a little brown scale. As no mealy bug exists, stronger measures have not to be adopted—this of itself is a comforting assurance. Where the younger wood, *i.e.*, the shoots made after the first or second stopping last season, is not well studded with fruit-buds, is weakly, or not well ripened, I shall prune it back. In doing this it does not imply that any risk as regards a crop is being run, as these Figs will push forth their fruit from buds lower down. Indeed, I believe a plant of either of these Figs might be pruned all over and then a crop be had, so prolific are they under favourable conditions.

FIGS FOR LATE FORCING.—These are still bearing some good fruits, and will continue to do so for another month or so. The most conspicuous kinds now are Nebian and Bourjassotte Noir. Negro Largo, which has been excellent, is nearly all gathered. The two first have still good crops on them, which with warmth will finish well. Being so very distinct from each other, these two varieties afford quite a contrast. Great care as regards moisture has now to be exercised to prevent cracking. The night temperature averages at banking-up time 68° to 70°, with 10° to 15° increase by day. Those of the late batch which have been cleared of their fruit are in my case being kept in a light house at a temperature of 5° less than that just given. This is done with a view to thoroughly maturing the wood; a dry, warm atmosphere with a free ventilation will accomplish this. As the leaves fall the plants will be moved to a dry vinery for a time before being kept absolutely cool.

EARLY TRAINED FIGS.—These should receive attention as soon as possible, so as to be in readiness for starting when it is customary to do so. If need be this may be done with safety by December 1. Cleanse the wood thoroughly as previously advised, having done what little pruning may have been found necessary, bearing in mind that it is an easy matter to overcrowd Fig trees, but, assuming that care has been taken in this respect during the past season, there will not now be any great amount of wood to operate upon. If it can be so arranged as to paint all the woodwork and wires once every year, so much the better, but if not, then give it a good washing down. If syringed first with a weak solution of Bentley's paraffin oil insecticide the dirt upon the woodwork will be easily removed. Top-dress the borders wherever possible, using a good proportion of lime rubble or bone-meal, either of which will serve a good purpose. HORTUS.

The break up of the drought.—At last rain has fallen in sufficient quantity to moisten the earth some inches in depth. It will prove of inestimable benefit to all green crops in gardens, although too late for root crops on the farms. The barometer began to fall on the 14th, the wind changing at the same time to E. and S.E., and on the 15th it rained for a few hours. It then cleared up, but rain came on again at night. The fall was heavy throughout the night and the early hours of the morning, and on the 16th there was a further fall in the barometer, the wind still

remaining in the same quarter, which betokened that heavy rain was close at hand. The prediction was verified towards eight o'clock in the evening, when it began to rain heavily, and continued doing so without intermission until nine o'clock on the morning of the 17th. The soil being in such a dry state, it has absorbed nearly every drop which fell, and it may safely be stated that but little or none has run to waste. All the Brassicas have received a good cleansing, of which they stood in great need, for I never in all my experience remember to have seen them so full of aphides before. Coleworts and Cabbage set out for early spring cutting already look the better for the rain, and it is to be hoped that they will now grow away and make up for some of the lost time. Celery and Leeks will benefit considerably by the abundant fall, but the sooner all late Potatoes are lifted the better. Carrots and Parsnips, it is feared, will split under the influence of the sudden accession of moisture, but in my case the matter can be remedied by lifting the roots, they being sufficiently large for general use. Turnip-rooted Beets will also be better lifted and clamped, otherwise there will be a tendency towards second growth. Strawberry plants will now be able to make some amount of growth before the winter sets in, and the foliage of fruit trees looks fresher and cleaner. Although rain has fallen abundantly, we must wait for further supplies before lifting and planting can be commenced.—A. W.

NOTES ON PEAS.

I CONSIDER Autocrat, Duke of Albany, Eureka, Satisfaction, Maincrop, and Improved Ne Plus Ultra the best. The two first-named grow more largely than any other. Autocrat can be depended on to give a continuous supply for a very long time. The pods are not so long as those of many of the other sorts, but the Peas are very large, of a dark green colour and delicious flavour. The above six sorts are all very heavy croppers, resist mildew better than most sorts, and all have a splendid flavour. I consider the best early sorts to be Ringleader, Improved Ringleader, William I., and Early Giant. Improved Ringleader is a stronger grower, more prolific, and the Peas larger and better flavoured than in the type, but it is about ten days later. For mid-season, all the sorts named are excellent. To these may be added Veitch's Perfection, G. F. Wilson, Fillbasket, and Fortyfold, good old sorts, but small compared with many of the newer varieties. To yield a supply into the late autumn, Ne Plus Ultra is, in my opinion, the best, although most of those mentioned for midseason do very well if sown at the proper time, which, I consider, is from the middle of May to the middle of June.—J. IRONSDALE, *Blackadder Gardens, Edrom, N.B.*

— My favourite Pea for an early crop on a warm border is Chelsea Gem, with William I. to follow. I grow Sharpe's Queen, Veitch's Maincrop, and Stratagem for midseason, with Autocrat and Ne Plus Ultra for a late crop. For a late supply I make a sowing of the two last-named varieties the last week in June. These keep up a supply until October, should the weather be favourable.—WM. ANDREWS, *Tregothnan, Truro.*

— The earliest and best as grown here are Chelsea Gem, William the First and Extra Early Selected; second early: Gradus, Criterion, Prodigy and Autocrat. For latest of all I sow, in the middle of July, Ne Plus Ultra, Late Queen, Sturdy and William the First. The last, although an early Pea, often stands the autumn better than any other variety, being a strong grower and, as a rule, free from mildew.—J. SMITH, *Mentmore, Leighton Buzzard.*

— Out of the many kinds of Peas now in commerce selection is most difficult, where so many are so good and the returns will differ in a remarkable degree no doubt. I have been growing in two diverse places in Surrey twenty good but not tall varieties, and in each case the results have been the same. All have done well, and

choice for crop or excellence is extremely difficult. A special requirement of Peas now, however, is that they be green, both in pod and Pea; that the latter be closely set in the pod; that the pods open and shell easily, and be not of the broad, puffed order, as these never open well. Generally the greenest Peas give the sweetest and best flavour. A fine selection of dwarfs is Chelsea Gem, or William Hurst; English Wonder, really a wonderful and delicious dwarf; Daisy and Dwarf Defiance. Of taller Peas, Gradus, though not a great cropper; Early Giant, remarkably fine; Senator, Peerless, Sharpe's Queen and Gladstone are hard to beat, but Autocrat, 4 feet, may be added. Of tall Peas—of which I have grown none, but have seen them elsewhere—I have found none better than Alderman, without doubt one of the finest and best flavoured tall Peas in commerce. Judging plates of raw shelled Peas recently, I found one much sweeter and softer than the others, and it was placed first. Then I turned to the Peas in pod and found the same exhibitor showing Ne Plus Ultra, but the pods were small. That showed that in the matter of sweetness and softness none of the new Peas excel that famous old variety. It is, however, small of pod and a moderate cropper. Were I growing three Peas only, early, midseason and late, I should sow Senator, Sharpe's Queen and Late Queen or Gladstone, as both are fine late varieties. From the middle to the end of June is a good time to make a sowing for an autumn supply.—A. DEAN, *Kingston.*

— The kitchen garden being so small, I have little room for trying new kinds of Peas, and depend largely on old and well-tried varieties. I have given up all the round-seeded forms with the single exception of William I., which in most seasons produces an enormous crop of Peas of fair quality only. In place of Ringleader I grow May Queen, a useful kind of exceptional quality and very free bearing. Chelsea Gem is one of the most useful of dwarf kinds and takes up little room, so I sow it freely. Sharpe's Queen is an excellent midseason Pea, and so is Yorkshire Hero, a kind that seems to hold its own in the very driest seasons. East Anglian is a free-bearing local kind. Duke of Albany is of excellent quality in July and early August, but is soon over. Stratagem is a good free-bearing Pea, well filled up and constant. Autocrat is the best late Pea I know, and I grow nothing else for the latest supplies. Before this fine kind was sent out I sowed the small kinds, such as Sangster's No. 1 and others, until the end of July, but my latest sowing now is Autocrat about the first of the month. Sometimes, owing to very dry weather, this is a failure, but usually when the cooler autumn weather sets in the pods are produced in greater or less quantities until the middle of October.—H. RICHARDS, *Coldham Hall, Bury St. Edmunds.*

— The best Peas I consider are Chelsea Gem, William Hurst, Daisy, Criterion, Duke of Albany, Veitch's Maincrop, and Autocrat. I do not think one need multiply varieties, as, like other gardeners, I grow several other varieties just to test them. For instance, I grow Veitch's Perfection largely, but this season it has not done well, neither has Sharpe's Queen. The former, as every gardener knows, is a grand Pea in a season which suits it. Ne Plus Ultra is a fine Pea, and which I also grow extensively. It is, however, altogether too late. In some seasons it does well, others not so. Autocrat is more reliable, although not of such high quality. If I were bound down to three Peas, they would be William Hurst, Criterion, and Autocrat. As a rule, the middle of June suits this district for sowing for an autumn supply. I commence sowing from the middle of May up to July 1 for late crops, at intervals of ten days.—A. YOUNG, *Witley Court Gardens, Stourport.*

— The Peas I consider the best are Exonian, William the First, Senator, Duke of Albany, Dr. Maclean, Dwarf Marrowfat, Autocrat, Goldfinder, and British Queen. For early Peas I sow Sangster's No. 1, Exonian, and William the First.

For succession crops I sow four sorts at the same time, viz., Senator, Dr. Maclean, Dwarf Marrow, and Autocrat. Dwarf Marrow and Autocrat come in after the others, and ensure a supply in succession. For late autumn supply I sow British Queen or Goldfinder about the second week in June as single rows, and the second early sorts, such as Senator and Harrison's Glory, up to the first week in July. The autumn crops require protection from birds.—JOHN GARLAND, *Killerton, Exeter.*

— The earliest Pea with me was Extra Early, followed by Chelsea Gem and William the First. The best midseason Peas were Veitch's Perfection, Supreme, Yorkshire Hero, Sturdy, and, last of all, Ne Plus Ultra. About June 21 I find a good time to sow the last Marrow Peas. There are many other good kinds of Peas, but it is impossible for most gardeners to grow a large variety of sorts. If only three kinds were needed for a garden, I should choose William the First for an early, Veitch's Perfection for a midseason, and Ne Plus Ultra for a late kind.—A. HARDING, *Orton Hall Gardens, Peterborough.*

— The varieties I rely upon for a season's supply are Chelsea Gem, Criterion, Duke of Albany, Dr. Maclean, Chelsonian, Veitch's Perfection (true stock), Autocrat, Maincrop, and Ne Plus Ultra. The above are all good croppers and good in flavour, Criterion being the very best in flavour I know. The best early for sowing in pots and planting out is Chelsea Gem. The best early for sowing in the open ground in January or February is Extra Early. The best midseason varieties are Criterion, Veitch's Perfection, Maincrop, and Duke of Albany; for late supply, Autocrat, Ne Plus Ultra, and Chelsonian. I make the latest sowing on or near June 20, and only in one season during the time I have been here have I failed to pull abundantly from sowings made on that date. Personally I do not recommend the sowing of Peas in trenches over manure unless it is on poor, shallow soil, preferring to manure and thoroughly pulverise the whole body of soil, sowing the seed in the ordinary way about 2 inches deep. When sowing in January or early in February I sow practically on the surface, drawing earth over the seed in the form of a mound. In this way I find very few seeds are lost through decay.—J. TUNNINGTON, *Ripley Castle Gardens, Yorks.*

— The names of the varieties of Peas in cultivation are legion, and bewildering to many. I consider the following varieties, for cropping and quality, amongst the best: William the First, Gradus, Duke of Albany, The Baron, Veitch's Perfection, The Duchess, and Ne Plus Ultra. I consider William the First the best early, Duke of Albany the best midseason, and Ne Plus Ultra the best late variety. About the end of May is the best time to sow Peas for an autumn supply.—A. PETTIGREW, *Castle Gardens, Cardiff.*

— The favourite Pea for early use and growing upon warm borders is Chelsea Gem. This is moderately dwarf, bears very freely, and is of good quality for an early variety. It is succeeded by Exonian and William the First, both of which are hard to beat. Fillbasket, Telegraph, and Duke of Albany form the bulk of midseason kinds. Champion of England, Ne Plus Ultra, and Autocrat are sown in the order named for late crops. Ne Plus Ultra for many years was the only sort grown for late use, and even yet I do not consider it surpassed by any other for good quality and productiveness for a long season. Autocrat being much dwarfer finds favour in this respect. The seed for latest crops is sown during the first week of June, and although early and second early sorts have been tried by sowing them about the middle of the month, I have not found them worth the labour of so doing, as the sorts named can be had in quantity until the middle of October, and in favourable seasons even later. They are of superior quality to early sorts at that date. One point in the cultivation of late Peas as carried out here differs from that of many, viz., the manuring of the ground. Instead of sowing

in well-manured trenches, a piece of ground that is well exhausted of manure is selected, and after being well dug the seed is sown and no stimulant applied to the crop at any stage. Proximity to the sea necessitates this, as the moisture-laden atmosphere of the autumn months would cause such rank growth, and the Peas would grow to such a height that it would be impossible to keep them upright. Once the top part of the haulm falls over, the rows are greatly damaged, and the weight of crop lessened thereby. I have always observed that Peas which make a sturdy and not over-vigorous growth bear the best and heaviest crops, and are of course the easiest to cultivate. —JAMES DAY, *Galloway House, Garliestown, Wigtownshire.*

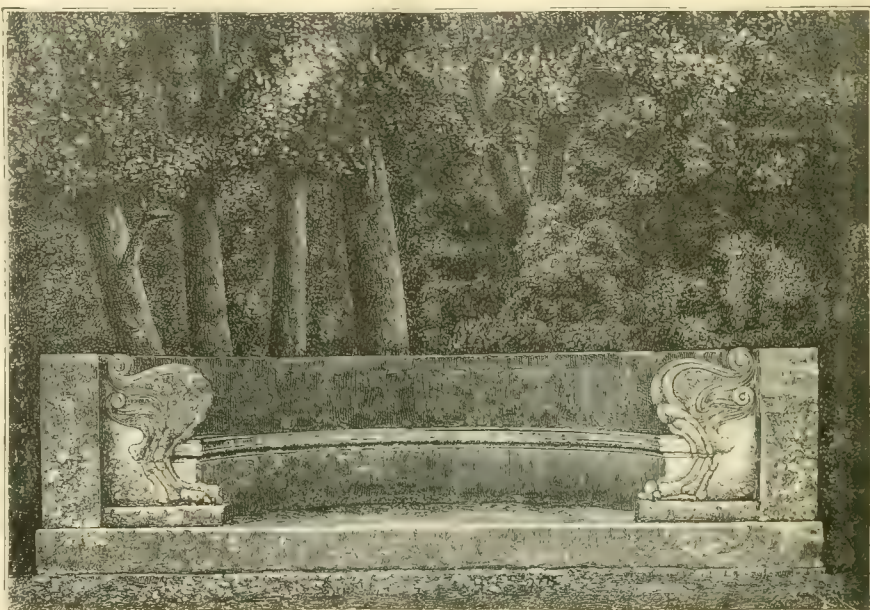
— The Pea that has gained most favour with me here is Williams' Emperor of the Marrows, a type of the old British Queen. Duke of Albany is also a favourite, but I consider the former the better flavoured and heavier cropper, and I get a longer succession of young Peas. I seldom sow any early variety but William the First. I do not, perhaps, get it in so soon by a few days as I should do some of the other early varieties, but I think the great superiority of this variety over the other early kinds more than compensates for a few days' loss of time. For midseason I still prefer the old British Queen, Magnum Bonum, Williams' Emperor of the Marrows, and Duke of Albany. Ne Plus Ultra is also a great favourite with me both for flavour and appearance. For autumn use I depend on Premier and Veitch's Perfection. I never sow later than the last week of May. —W. MARCHAM, *Wentworth Gardens, Virginia Water.*

— The many additions to the list of Peas introduced by the leading seedsmen have a tendency to lower the value of some of the old and well-tried sorts, yet in spite of this there are a few which still claim a place, even in the most select list. The early rounds, however, are losing ground since the early and hardy race of marrow Peas has become better known and proved. For growing on narrow borders for the earliest gathering I have not found a better than Chelsea Gem; Wm. Hurst, another dwarf variety, being very good. May Queen, Gradus, and Earliest Marrow are excellent for early sowing, and, being hardy, can be sown on warm borders as early as is usual with the round varieties. I have not proved it myself, but Early Morn I have heard good reports of by others. Eckford's No. 1 is an improved William I., growing to a height of 5 feet. When

has a future before it, the large size of the pods, its freedom in bearing, and the dwarfness of the haulm are all points of importance, particularly where a large supply is expected from a garden of limited size. Sharpe's Queen, Shropshire Hero, Pride of the Market, The Echo, and Heroine are all good and reliable second earlies of dwarf

is by this practice regular till autumn rains and frost put an end to them. Drainage, altitude and exposure regulate the Pea season to some extent. —M. TEMPLE, *Carron, Stirlingshire.*

— I do not see the advisability of cultivating an extensive variety, as with periodical sowing a succession of first-class Peas may be obtained. I



Stone seat, Dropmore.

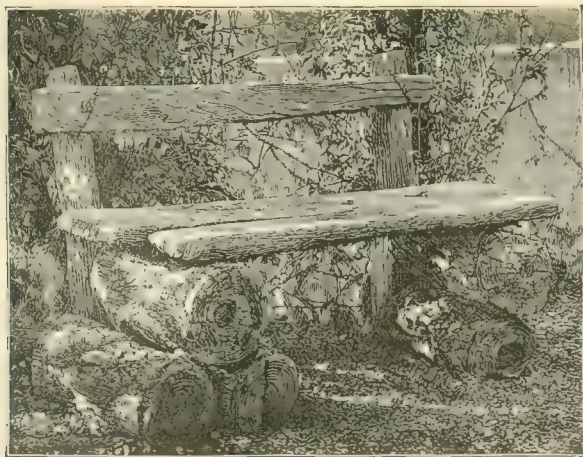
growth. In taller kinds, Criterion still commands a high position because of its rare quality and free bearing. Critic, of more recent introduction, will gain favour as it becomes better known. Its pods, which are large, give Peas of the largest size, fine in quality, and freely produced. Epicure is a Pea of great merit, and, like the last-named, produces fine pods in plenty. Autocrat I depend on for late crops in the open quarters, and Chelsea Gem for borders. For autumn use the first-named is sown at ten-day intervals during June. These are ready for gathering from the middle of August onwards, according to the weather. Birds, particularly hawfinches and sparrows, are usually very troublesome. Chelsea Gem is sown on a border up to the middle of July, so that nets can easily be placed over it. —W. STRUGNELL, *Road Ashton.*

— American Wonder and Chelsea Gem have both been of great excellence; Gradus and Criterion, among 4 feet high early Peas, have been first-rate in every respect; Dickson's Favourite, Duke of Albany and Dr. Maclean are unsurpassed in this locality for second crop; Autocrat, Veitch's Perfection, and Ne Plus Ultra stand high as latest kinds; Sutton's Defiance sown late is a free-cropping dwarf with large well-filled pods of the finest flavour. To give a good supply of Peas of best quality, I do not know any which can surpass those I have enumerated. I begin the Pea season by sowing a good dwarf in boxes of turfy loam and leaf-mould, covering with fine soil. They are kept

sow for April picking in pots and cold houses American Wonder and Sutton's Forcing as the best, this latter Pea being far better than American Wonder, but not so early by about eight days; following these in the open with Excelsior and Harbinger, a Pea much appreciated for early work, having a good hardy constitution, large in size, of a beautiful green colour and delicate flavour. Following Harbinger are Exonian or Stratagem. For main crop and onward I grow Dickson's Champion and Favourite, Dr. Maclean, Duke of Albany, G. F. Wilson, Supreme, and Senator, and for late use, Autocrat and Ne Plus Ultra. Many of the newer kinds, I find, lack that delicate flavour necessary for the table. —J. LEE, *Gopsall Hall, Leicester.*

SEATS IN GARDEN AND PLEASURE GROUND.

THESE are among those things that tell something of the thought given to a garden. The modern cast-iron seat is about as bad as it can be, and we cannot say that the wooden seats of the English garden are much better. There used to be a simple kind of iron seat made many years ago which was much better, and with some kind of lattice-work over it did very well. Sometimes a very good Oak seat may be made, with the feet and supports only of iron, with laths placed on the iron frame. Of our own woods, Oak is the best; stout heart of Oak laths screwed into a simple iron frame without ornament make a good seat. They are best without paint, in the natural colour of the wood. No seat is so good as one of good stone, simply designed and strongly made, and in our country one objection to stone is met by the use of a mat or light lattice-work in Bamboo, or split laths of Oak held together by cross pieces and placed on the top of the stone. In Italy and France one often sees good stone seats, and there they are not expensive. Some of the French seats are simple and good in



Log seat, Tresserve.

cooked it is a very deep green, and the quality first-rate. Holloway Rival, a second early, is the most prolific marrow Pea I have grown, the haulm, which reaches from 3 feet to 4 feet according to the season, being literally covered from the ground upwards. The pods are filled with large Peas, and the flavour good. Daisy undoubtedly

free from frost and well hardened before being planted out, when they are protected by mats on hoops when the weather is frosty. I gain about ten days by this practice, and sow from January every ten days in moderate quantities, to prevent waste, till the first week of June; a very early sort may be sown a fortnight later. The supply

form, and, painted a nice carnation-leaf green, they look very well. One of them at Warley Place is figured in our cut. Bamboos, which come in such quantities now in the sugar ships, might be more used for making pretty garden seats. Sometimes old tree stumps help to make useful seats, and the bole of the tree, if cut, makes a very good rustic seat. Where stone is plentiful, as in many hill and other parts, it is often easy to make useful seats out of blocks of stone in rocky places. Of this sort we noticed some pretty examples at Castlewellan and the rocky district around. Occasionally there are about country houses stone steps which with a little care can be made into very good garden seats.

ORCHARD AND FRUIT GARDEN.

MILDEW ON VINES.

IN some places mildew appears to have been troublesome this season, and in one or two instances crops of Hamburgs have been in a great measure spoiled. The best of culture will not always prevent attacks of mildew, but it is in the power of everyone to stop its progress so that the loss is reduced to a minimum. It is where plants are grown with Vines that mildew is most to be feared. It frequently happens that Ferns and things of a similar nature, and which delight in shade and moisture, are grown to a considerable extent in amateurs' vineries. In dull weather, when but little air can be admitted, and when the floor of the house should be kept as dry as possible, the plants have to be frequently watered. The close, damp atmosphere which prevails during the night is favourable to the increase of mildew, which, if not dealt with on its first appearance, will spread with great rapidity over the house. It will, I think, rarely be found that mildew appears simultaneously in various parts of the structure. In nine cases out of ten it originates in one of the corners of the house or close to the bottom ventilators, for, although a close, damp atmosphere will induce an attack, it is equally certain cold draughts of air will bring it on. I had this spring a convincing proof that cold currents of air are alone sufficient to cause mildew. The only Strawberry plants that were attacked stood directly opposite a broken pane of glass. It was but a small opening, and it was curious to trace the passage of air from it to the ventilators above. In a direct line all the leaves were attacked, and in no other portion of a house 100 feet long was there the least sign of its appearance up to the time that the fruit was gathered. I, of course, took prompt measures to destroy the fungus; had I not done so, in the course of ten days or so I should have seen the white patches in all parts of the house. In eight seasons out of ten, mildew makes its appearance on my Hamburg Vines. It invariably comes on a couple of Vines near the door, and if I take it in time, I rarely see it in any other part of the house. The door faces the east, and when open for watering or for any other purpose the cold wind rushes in at times directly on to the Vines just at that end. At the opposite end, where there is shelter from cold winds, I have never known mildew appear. I am, therefore, justified in taking for granted that to the parching air acting directly on the tender foliage I may attribute the presence of this pest on my Vines. In the case of inside borders, where watering is systematically practised, there is but little danger of the soil becoming over-dry, but in a time of heat and

drought there is some danger of the Vines suffering in this way.

In districts where the drainage is free, the soil will get quite dry to a depth of 2 feet or more. This happens just when the berries of Vines which ripen off their crops during the hottest months of the year are swelling up freely, and this is the time when they are most likely to be attacked by mildew. Dryness at the roots is a fertile source of evil, bringing on an attack in the course of the growing season of either mildew or red spider. In the case of outside borders one or two good soakings will be sufficient, but inside borders will, when the Vines are well established and bearing heavy crops, require moderate waterings at frequent intervals. One of our largest Grape growers for market waters his late houses about every ten days, just stirring the surface, and in the course of the summer giving several top-dressings of some concentrated manure. The main point is to keep a sharp watch from the time growth gets fairly active and deal with the fungus the very hour it is perceived. I keep some yellow sulphur and a fine muslin bag in the house, and dust both foliage and berries the instant the disease shows itself. In this way it is soon stamped out and loss and anxiety avoided, but if the disease is allowed time to spread it will be next to impossible to rid the place of it. Vines that have been planted a number of years and which have few fibrous roots are more liable to be attacked than younger ones. The roots are so deep in the soil that they are in a great measure beyond the influence of sun and air; neither can they be liberally fed as is practicable with Vines that have an abundance of active roots near the surface. It is false economy to keep such Vines; far better root them out and re-plant young healthy canes in fresh compost. J. C. B.

Brunswick Fig on open wall.—This is seldom seen bearing well on open walls. I was lately pleased to see it thriving grandly in this position. It was occupying a south wall 14 feet high and from 30 feet to 35 feet long. At the time of my visit (the end of August) there was a splendid crop. The tree was probably fifty years old. I have found this kind unsuitable for planting in the open in heavy soils, as it grows strong and does not ripen its wood. Where it does well it is a most desirable kind.—J. CROOK, *Forde Abbey*.

The Dartmouth Crab.—Those who are anxious to add interesting features to their pleasure grounds should not overlook the above Crab. For weeks past several trees here have been greatly admired, and they will retain their beauty until a sharp frost or high wind robs the long and graceful branches of the mass of highly coloured fruit. The kitchen garden I do not consider is the most desirable position for these trees, as there are so many other parts of the garden where they could be used to better advantage, viz., in the mixed shrubbery and pleasure grounds. Even as a lawn tree it could not possibly fail to please, as it would prove no less interesting in early summer when covered with delicate bloom than later in the season, when the branches are almost borne down with the weight of deep, richly-coloured fruit. There are many trees and shrubs now used in such positions certainly much less ornamental than this and others of the Crab section of fruit trees. Of course, to see the trees in full beauty they should not be subjected to pruning of any kind, which would result in restricted growth and few fruit—a practice often followed so unwisely in the orchard. The habit of the tree is naturally spreading, and the branches, being situated some distance apart, become studded with flower-spurs their full length, and when the trees attain a good size

each branch forms as it were long ropes of fruit. The best form of tree is a standard with a stem not less than 6 feet. The lower branches naturally become pendent with the weight of fruit. In another important way it is desirable to have at least one tree in every garden, as the fruits after having done duty as an ornament may be used for decoration when gathered, as they are so highly coloured, or they may be put to a still better purpose by preserving them, for which they are valuable and worthy of cultivation. There are other varieties which are recommended, especially the John Downie, but here I find the Dartmouth the best.—R. PARKER, *Goodwood*.

MELON NOTES.

PROBABLY there was never a better season for the later crops of Melons. At all events, I have never had better or more finely-flavoured fruit, the continual sunshine having admitted of the freest ventilation up to only a week or so since. A plentiful supply of fresh air during the time the fruit is swelling hardens the principal leaves, and these remain on fresh and good until the last. The fruit from plants that retain their foliage is always of a much finer flavour than that not finished when the foliage begins to fall. It takes a little experience to know just when to diminish the water supply. If kept going too long, especially if the atmosphere is kept dry, the best and largest fruits are apt to crack at the point, this of course ruining their appearance and detracting from the quality. On the other hand, too sudden withdrawal of the moisture is bad for the foliage and stems and also the fruit. I never take a second crop from Melon plants, as when the fruit has well netted, this is considered rather more than the health of the plants. If feeding with any kind of liquid manure has been practised, it is then discontinued and water is given only in moderation, a longer time being allowed to elapse between the time of watering. The roots, however, are well soaked. If this is not done the roots nearest the surface get more than they need, while those lower down get none, and these lower roots are the strongest, of course. The consequence is an early collapse of the plant and a dead, mawkish flavour instead of the rich taste peculiar to a really well-grown Melon. A Melon to be good should be well ripened to the rind, and the depth of flesh depends, of course, upon the variety. There is no doubt many of our Melons at the present day are much too large. There is as much flesh in some of the little solid Melons that used to be grown as in the large hollow fruits now so much in vogue. I have tried several of these during the last few years, and in very few cases can they be described as good, or even fairly good. There is first a hard substance under the rind for about half an inch, then a little flesh—sometimes eatable, but often not—with a great cavity in the centre that one might put a fair-sized Melon into. The best variety I have grown this year in the green-fleshed class is Earl's Favourite. It is rather large, but the flesh ripens quite to the rind, and is thick and of excellent flavour. I am sending it to table now, and it is very much liked. The best scarlet-fleshed kind I have is Eureka, which has been described quite lately. H. R.

Apple Baumann's Red Reinette.—This may be strictly termed a heavy and continuous cropping Apple, and this recommendation, coupled with the fact that the fruits are highly coloured and of good size, constitutes it as being a good sort to grow for market. Young trees come early into bearing, and, when grown in the form of a spreading bush, it is surprising the quantity of fruit they are capable of carrying. I have no experience of it as a standard, but should imagine that it would succeed well as such, as its habit of growth would prevent the trees growing to too great a height, and the produce would not therefore be so liable to damage from high winds. I have seen excellent samples of this Apple at

different times this season, and also noticed a few trees of it well laden with fruit when looking round the Royal Horticultural Society's Gardens at Chiswick quite recently. It is not a first-rate Apple as regards flavour, but it is an excellent keeper, and remains in sound condition a considerable length of time in a cool store.—A. W.

The common Crab Apple in the shrubbery.—The garden varieties of Crab Apples, with their pretty red and yellow fruit, are admirably adapted for planting here and there in pleasure ground shrubberies, or even in groups by themselves, but the wild Crab is specially suited for park adornment. In one nobleman's park in Essex I have seen it towering to a great height and presenting a striking appearance in May, when the dense growth is laden with delicate blossom. When planted in close proximity to Oaks, these form a capital background. Later in the year, when the fruit just turning from a green to a pale yellow colour hangs on the branches, the tree is again attractive. Its rugged form of growth adds to its gracefulness.—N.

BLACKBERRY GROWING.

SOME twenty years ago the introduction of the large American Blackberries, such as Lawton, Wilson Junior and other sorts, gave a spurious spurt for a time to the culture of Blackberries in Britain. For a time at least a lively trade was done in American Blackberries at high prices. With few exceptions these new Blackberries proved failures. Either their size or other merits had been unduly puffed or our climate was unsuit-

and other thieves, while Blackberries, however rich and luscious, seem safe. The Bramble has also a longer season than most of our berried fruits. This might also be extended at both ends by adding to the early and extending the late varieties. D. T. FISHER.

FIGS—SINGLE STEMS VERSUS SUCKERS.

How frequently do we meet with Fig trees which are simply a mass of succulent, unfruitful suckers. Crops of fruit from such are small and the individual fruits rarely attain the size or ripeness so desirable in really good Figs. The reason for this state of things is not far to seek, when we know that all suckers rob the plant of its legitimate food, and, in the case of Figs, ultimately kill or render them utterly useless as a source of fruit supply. Once suckers are allowed free scope, the Fig tree immediately shows signs of weakness by producing short small wood with unusually small leaves and miserable apologies for fruit which seldom finishes properly. The tree is weakened as the suckers become more numerous. Fig culture after this fashion is unprofitable compared with the results invariably obtained where the essential root conditions are secured and a single stem connects the branches and roots. A striking example of successful Fig culture came under my notice some time ago in the gardens at Keele Hall, Staffordshire. The house was a lean-to with an area of 1050 square feet, the trellis at the same angle as the glass, and about 18 inches under it, and almost completely covered by one tree.

The one stem supported seven varieties. The original tree was a Brown Turkey, planted at the front of the house at about an equal distance from both ends. The trellis being 3 feet or 4 feet above the level of the border, a single stem had been run up to this height and then induced to branch. As other varieties were desired, they were grafted on these branches, and now Mr. Wallis can gather seven kinds from the same tree. What a contrast between the wood of this tree for fruitfulness and that of the ones manufactured out of suckers. At the axil of every leaf of Mr. Wallis's tree a fruit could be seen in some stage of development, according to its time of growth. From one house alone Mr. Wallis says he is very rarely without fruit from the end of May to the beginning of November. Of course, much can be done with one variety to keep up a supply of ripe fruit by stopping, but when several varieties are grown on one tree this object is considerably simplified. At places where glass-houses are not too plentiful and yet a continuous supply of excellent Figs is required, a leaf on

Fig culture might be taken out of Mr. Wallis's book. It will also be found a step in the right direction to have one large, well-grown plant instead of several small ones. Even by continually repressing growth and keeping it within too narrow limits, the plants are very apt to merge into trees of the sucker stamp, especially if well cared for with fertilisers at the roots. To be successful in the cultivation of Figs, whether one variety or several are grown on one tree, or whether the branches

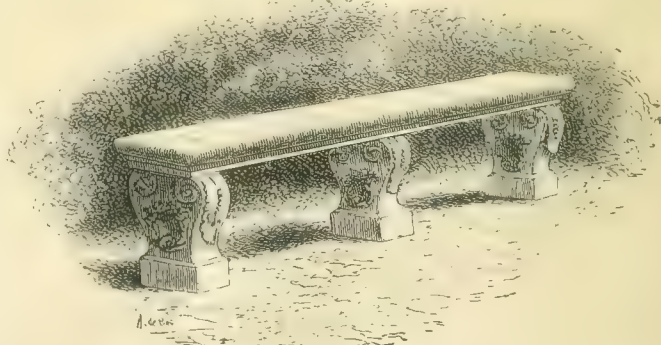


Marble slab seat with Oak lattice cover. (See p. 356.)

have room to extend, or are severely restricted in growth, no root suckers should ever be allowed to develop. The growth of young shoots from lateral eyes on the branches is another thing; but even these, if required to fill a blank space of the trellis, should be kept well stopped in their earlier stages of growth.

J. RIDDELL.

Nectarine Downton Improved.—This Nectarine is well worthy of cultivation. I have never tried it out of doors, but in a second-early Peach house it did remarkably well, ripening about the middle of June, and only about a week later than Lord Napier, so that I was able to exhibit both sorts at one show. Downton grew at the less sunny end of the house, this being span-roofed. Had it been favoured with as much sun as Lord Napier, it would not have been a day behind it in ripening. As far as I know, Downton is not generally known as a good forcing Nectarine, but as I have proved it to be so, and it is



Stone seat, Paris. (See p. 356.)

able for them. Anyhow, the boom in foreign Brambles soon came to an end and was succeeded by a reaction in favour of our native species, *Rubus fruticosus*, in its many choice varieties. Of these perhaps the most profitable and ornamental is the cut-leaved Bramble (*Rubus laciniatus*). This is quite hardy, easily accessible to all, and yields a better return than any other known Bramble. Everyone familiar with Blackberry districts should also visit hedgerows and banks, carefully selecting the finest strains for their gardens and allotments so soon as practicable. For years I have been advocating Gooseberries as hedge plants for cottagers' gardens and allotments. In many districts and on many soils Brambles would make the better and quicker fence. These will grow and fruit on almost any site and in any soil with a minimum of culture. Nevertheless, it is equally true that few plants enjoy good soil or a full root larder more than Brambles. Give these 2 feet or a yard of soil and liberal treatment and note the admirable account Brambles will give in growth and fruitfulness. I know of no plants that will yield a better return from a given area under liberal culture than Blackberries, the average price in our large towns being 4d. or more per pound for fair samples. Brambles are also far more free from insect attacks than any other of our bush fruits. The berry-eating birds seldom severely attack ripe Brambles however large and luscious. In many districts Cherry culture has become impossible through the destructive voracity of the birds. Currants, Gooseberries, Raspberries, and Strawberries are also heavily thinned through birds

of excellent flavour and a good bearer, others may be induced to give it a trial.—NORWICH.

The Japanese Wineberry.—I saw last autumn at Carrow House, Norwich, a fine lot of this Wineberry laden with its showy fruit. As noted at page 256, its principal use seems to be for preserving, and I was informed at Carrow that it was a favourite jam there. The plants have a very pretty effect, even in the kitchen garden, especially as at the date the fruit ripens other

small fruits are very scarce. "H. R." is correct in stating that a good rich soil is necessary, and I think the plants at Carrow had also the benefit of a good mulch of manure. Despite the fact that the fruit is somewhat acid, the plants had to be protected by netting from the attacks of birds.—C.

DESTROYERS.

BEEES AND FRUIT.

IN a recent issue Mr. Walker asked for a verdict of guilty or not guilty on an indictment which had been made against bees as fruit-eaters. I am not prepared to say that, as a rule, they are as persistently destructive as wasps, but in some seasons (presumably when honey material is scarce) I have found them most active amongst the Raspberries, also amongst Peaches and yellow Plums. I have found many bees lying hopelessly intoxicated in the skins they had helped to hollow out, and others greedily feasting upon the choicest fruit. Bees and wasps were, *arcades ambo*, alike robbers, but with a difference in favour of the wasps; these flew away when disturbed. The former, *more suo*, defended their booty with stings.—T. H. ARCHER-HIND, *Coombe-fishacre, Devon*.

—Mr. Walker will, I fear, be greatly disappointed to hear from another source how very destructive the hive bee has been to soft fruits. Till this season I always believed bees to be entirely innocent of feeding on fruits. I find, however, that where they can get at Grapes they prove quite as destructive as wasps. When excluded from the vineries they became very busy among Plums and Blackberries, it being no uncommon thing to find a Plum with five or six bees feeding on it. A neighbour of mine who has kept bees for many years tells me that until this season he never knew them to eat fruit before, but is quite positive they are guilty of the offence this year. It would be interesting to learn the reason of their depredations, although, for one, I do not think it is due to lack of food in the hive.—E. PARSLOW, *The Gardens, Brandfold, Goudhurst, Kent*.

—I have managed bees in a small way for some years, but have not as yet been greedy enough to rob them of any more food than was advisable, whilst my ignorance does not reach the inability (after thirty-five years of garden life) to distinguish between a drone fly and a honey bee. Perhaps the assertion, "They do as much mischief as wasps in certain seasons," was a bit too sweeping taking fruit as a whole. One thing, however, is certain: that if bees take a fancy to any individual tree—whether Apricot, Plum, or Peach—they will clear it more quickly than wasps. They are more particular in their diet, selecting the richest and most sugary varieties. The season is now over, or I would have despatched a fruit showing mischief done, together with the bees caught in the act. E. BURRELL.

—Having been away from home, I had not the opportunity to read Mr. Burrell's note from which Mr. Walker quotes regarding bees attacking soft fruits. I can, however, quite bear out all that Mr. Burrell states in the paragraph quoted, as I suffer from their depredations to a greater or less extent every year. During the past season they have been more destructive than ever, and as regards Apricots, Peaches, and Plums, far more fruits were consumed and damaged by them than by wasps. The depredators are true honey bees, of which a good many are kept in cottage gardens near

at hand, and I have had plenty of opportunities of proving this, as I have seen them flying to and from the hives. At one time I kept several hives of bees in the garden, but did away with them on account of the damage they inflicted on soft fruits. I am aware that other species of bees in addition to flies work great havoc amongst the fruit, but honey bees in my own case were the greatest sinners during the season just past.—A. W.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 25.

AN extremely interesting and at the same time most instructive meeting was that of Tuesday last. A more thoroughly representative display could scarcely be brought together at this season of the year. The last of the outdoor summer or early autumn flowers, owing to the absence in a singular degree of early frosts, were still in evidence in Dahlias, of which two large groups were staged, whilst the earlier of the Chrysanthemums were in strong force. Of other flowering plants, Begonia Gloire de Lorraine was again shown in fine form, this being intermixed with other seasonable flowers and admirable decorative plants, Ferns, &c. An excellent assortment of well-grown half specimen Ferns came from another source, whilst a large group of finely-grown decorative stove and greenhouse plants, including well-coloured Crotons, &c., was shown. A choice selection of variegated and other conifers, consisting of medium-sized plants admirably adapted for planting, and a mixed collection of stove and greenhouse plants, which comprised autumn-flowering Heaths, Nerines and Begonias, were also noteworthy. Of Orchids there was again a good display, the newer and the choicer hybrids being in strong force. Of hybrid Lælio-Cattleyas there appears to be no cessation in production; many of the introductions of the past ten or fifteen years are now exercising their influence in a marked degree. The exhibits before the fruit and vegetable committee were both extensive and highly meritorious. A grand display of Pears and Apples was beyond anything else the feature of the meeting. Another admirable lot of fruit was somewhat lacking in colour, but otherwise of good quality. Well-finished Black Alicante Grapes were submitted, whilst from Harrow was sent *Vitis heterophylla humulifolia*. Some Celery, better than which no one could desire, being weighty, solid, well blanched and clean, was shown. The attendance was extremely good, the light being better than usual. Such an exhibition as that of Tuesday last, and at a season when a lack of exhibits might reasonably be expected, augurs well for the popularity of the Royal Horticultural Society, the only regrettable feature being that a building better suited to such gatherings and such as some of our continental neighbours possess cannot be had.

Orchid Committee.

A first-class certificate was awarded to—

CATTLEYA MARONI (*C. velutina* × *C. Dowiana aurea*).—This is one of the most distinct hybrids we have seen, the sepals and petals yellow, suffused with a bronzy shade of purple; the broad front lobe of the lip heavily crested on the margin, the ground colour yellow, suffused with rose-purple and heavily veined with crimson-purple; the side lobes rose at the apex, suffused with brown and lined with yellow towards the base. The plant carried a raceme of seven flowers. From M. Chas. Maron, 3, Rue de Montgeron, Brunoy, France.

Awards of merit were adjudged to the following:—

LÆLIA PUMILA COLEMANI.—A large and finely-shaped flower, the sepals and petals white, slightly tinted with rose. The large lip is white in the

centre, the whole of the remaining front lobe being covered with deep rose-purple. The side lobes are white, shading to bright yellow at the base. A plant carrying a raceme of two flowers came from Mr. J. Coleman, Gatton Park, Reigate.

LÆLIA PERRENT LÉCOPHEA.—This is a distinct and desirable variety, the sepals and petals almost white, having a suffusion of purple that gives them a peculiar blue tint. The front lobe of the lip is slate-coloured, this replacing the crimson-purple as seen in the typical forms. The side lobes are white, margined in front with the bluish tint of the front lobe. A plant carrying a three-flowered raceme came from the collection of Sir F. Wigan.

Messrs. J. Veitch and Sons sent a fine group, in the back row of which were numerous Oncidiums in variety, finely-flowered Odontoglossum grande and O. Pescatorei. Among the Cattleyas were good forms of *C. Bowringiana* and varieties of *C. labiata* and *C. aurea*. The hybrids consisted of *C. Mantini*, the sepals and petals deep rose, the lip rich velvety crimson, shading to yellow at the base, showing the intermediate characteristics of both parents in this portion of the flower, the lines of *C. Dowiana* being very prominent. Lælio-Cattleya Nysa, a grand form, a three-flowered raceme of L. C. callistoglossa ignescens, Cypripedium cananthum superbum, *C. Charlesworthi*, a grand variety of *C. Milo*, *C. Arthurianum* and the variety *C. A. pulchellum* were well represented. A strong plant of *C. insigne* Sandere was also included. Among Miltonias were M. Morehana, a pretty variety of M. macrochila alba and a small plant of M. vexillaria Leopoldi with three flowers. Cologyne Veitchi with two spikes of its pure white flowers was also shown. A silver Flora medal was awarded. Messrs. Stanley Mobbs and Ashton, Southgate, sent a nice group consisting principally of finely-flowered and good varieties of their well-known type of Lælia pumila. Cattleya Warscewiczii with two spikes, each with five flowers, and *C. Loddigesii* were also well represented. *C. labiata* Lewisii is a distinct and beautiful variety, with pure white sepals and petals, the whole of the centre of the lip rich crimson-purple with a broad margin of white, the side lobes white, shading to yellow at the base. Several forms of *Odontoglossum crispum*, *Oncidiums* and *Cypripediums* in variety were also included (silver Banksian medal). Messrs. F. Sander and Co. sent several varieties of Cattleya labiata, a finely flowered plant of *C. Harrisonia*, a light form with two spikes of *Cymbidium Traceyanum* labelled *C. grandiflorum*, *Habenaria militaris*, and *H. carnea*. Messrs. Hugh Low and Co. sent a fine variety of *Cypripedium Evenor*, showing the yellow and spotted characters of both parents.

Sir F. Wigan, Clare Lawn, East Sheen, was awarded a silver Flora medal for a choice group, in the back row of which was a finely flowered plant of *Cyperorchis elegans* with eight spikes of flower. *Cymbidium Winnianum*, with a fine spike of its pretty white and brown flowers, was also shown. Among the Cattleya labiata was a good variety of *C. l. alba* with three flowers. Several fine forms of *C. Dowiana*, a distinct variety of *C. Eldorado*, Lælio-Cattleya The Hon. Mrs. Astor (*C. Gaskelliana* × *L. xanthina*), good varieties of *Cypripedium Arthurianum*, a fine form of the yellow-ground section of *C. Godefroyae leucochilum*, and good forms of Lælia pumila were also included. Mr. Greenwood, Highfield, Haslingden, sent the original plant of Lælio-Cattleya H. Greenwood, very similar in many respects to the variety described in our report of the last meeting. Mr. J. Douglas sent Lælia Breseii (*L. purpurata* × *L. harpophylla*) with seven of its creamy white and rose flowers. Mr. W. Cobb sent a plant with undeveloped flowers of *Cypripedium insigne* Sandere and another yellow form with indications of spotting on the dorsal sepal. Mr. W. A. Gillett, Fair Oak Lodge, Bishopstoke, sent two good forms of Cattleya Warscewiczii and a pretty Dendrobium Phalaenopsis with delicate rose-tinted flowers. Mr. F. W. Moore, Glasnevin, was awarded a botanical certificate for Angraecum

Germanianum, the sepals and petals creamy white suffused with brown, the lip pure white. Two cut flowers were shown. The Rev. Goodliff, Worthing, sent *Cypripedium Boxalli* × *C. Io grande*, but the flowers were not equal to those of either of the parents.

Floral Committee.

The following received first-class certificates:—

DRACÆNA VICTORIA.—A Brazilian species that partakes of the character of *D. Lindenii*. The plant is of good habit, the gracefully recurved leaves having bands of yellow, varying from pale to golden. From Mr. Wm. Bull, King's Road, Chelsea.

PTYCHOSPERMA SANDERIANA.—An elegant and pleasing Palm of somewhat spreading habit, and bearing in some cases radical breaks, as in *Areca lutescens*. From Messrs. Sander and Co., St. Albans.

Awards of merit were given to the following:—

CHRYSANthemum MAJOR MATHew.—A distinct and well-proportioned incurved flower of a pleasing shade of lilac. From Mr. W. J. Godfrey, Exmouth.

CHRYSANthemum BARONNE DE VAILLARD.—This is an acquisition to the incurved section. The flowers are bronze, slightly touched with gold. From Mr. Robert Owen, Maidenhead, and Mr. W. J. Godfrey.

CHRYSANthemum HETTIE MITCHELL.—A useful addition to the semi-early section, the plants bearing quantities of moderate-sized flowers on freely branched stems. The colour as shown is golden yellow, tinted orange. Height 2½ feet. From Mr. W. J. Godfrey, Exmouth.

CHRYSANthemum NELLIE BROWN.—This is a bronze sport from the well-known Ryecroft Glory. Splendid plants were shown by Messrs. Cannell and Sons and Mr. Wells, Redhill.

CHRYSANthemum SOLEIL D'OCTOBRE (Japanese incurved).—This Japanese incurved is of a charming shade of soft yellow, and should prove an acquisition. From Mr. Leopold de Rothschild, Acton (gardener, Mr. Jas. Hudson), and Mr. H. J. Jones, Lewisham.

CHRYSANthemum GOLDEN QUEEN OF EARLIES.—An exact counterpart of the white form in shape and size, the flowers of a pleasing shade of yellow. From Mr. H. J. Jones, Lewisham.

ROSE SUNRISE (Tea).—This in its colouring, or more strictly combined colouring, is unique, the outer petals reddish carmine, shading to delicate fawn and pale salmon within, the open blossoms of a pleasing yellow. The chief value of the flower is in the warmer tints that are so abundantly apparent as the flowers open, and these coupled with the bronzy foliage are charming. The flowers, too, are produced in great abundance, the buds being exceptionally well formed. From Mr. G. W. Piper, The Nurseries, Uckfield, Sussex.

A large group of fine-foliaged plants, mostly of large size, was set up by Mr. A. Howe, gardener to Sir Henry Tate, Park Hill, Streatham Common. Some well-grown examples of *Dracænas*, *Crotons*, *Palms* in variety, splendid pieces of *Arundinaria*, *Cycas*, *Asparagus Sprengeri*, *Microlepia hirta cristata*, and *Anthuriums* were included in the group, the *Dracænas* being 5 feet high, well coloured, and bearing foliage to the pots. The whole was margined with small grasses and *Crotons* (silver-gilt Banksian medal). Messrs. J. Hill and Son, Lower Edmonton, sent a choice assortment of greenhouse Ferns, many of the plants of good size and well grown. Some of the finest examples were *Gymnogramma calomelanos*, a handsome and distinct spreading species, slightly powdered; *Asplenium crenatum*, *Leucostegia immersa*, with fronds of a pleasing pale yellow-green; *Davallia Mooreana*, *Lastrea lepida*, *Pteris tremula Smithiana*, and *Adiantum scutum roseum* (silver-gilt Banksian medal). From Bagshot Messrs. J. Waterer and Sons brought an assortment of variegated conifers that proved of interest to many, most of the examples being compact and well formed. The whole of the plants were wonderfully fresh and of clean

growth, and, in the majority, compact also. A silver-gilt Flora medal was awarded. Mr. H. B. May, Edmonton, filled one side of a long table in the centre of the hall with a mixed arrangement of beautiful and useful plants, including capital flowering examples of *Begonia Gloire de Lorraine*, very pleasing and well grown, many *Palms*, Ferns in variety, *Bouvardia jasminoides*, *B. alba odorata*, a lovely kind with delicate flesh-tinted flowers; *B. Maiden's Blush*, always a popular kind; *Carnation Mrs. Leopold de Rothschild*, *Asplenium Mayi*, small *Crotons*, *Erica caffra*, *E. hyemalis*, and a couple of groups of *Chrysanthemum Mutual Friend*, a pure white kind. Most of the plants were set in small groups or colonies, and in this way gave effect to the whole (silver Flora medal). Mr. John R. Box, Croydon, had a fine lot of *Begonia* flowers taken from the open. These were of excellent quality for so late a date. Messrs. J. Cheal and Son, Crawley, had an assortment of coloured foliage and flowering shrubs, among which the *Scarlet Oak* (*Quercus coccinea*) was the most important plant. The two species of *Winter Cherry*, *Physalis Alkekengi*, and the more modern Japanese form, *P. Franchetti*, were also in this group. Mr. S. Mortimer, Farnham, Surrey, had a splendid display of *Dahlias*, of which ten boxes were show and fancy kinds, together with a large assortment of *Cactus* kinds, the flowers beautifully fresh and clean, and of quite a representative character (silver Flora medal). Mr. T. S. Ware, Tottenham, had a very large bank of *Dahlias*, the flowers as good as any shown in the season, such kinds as *Fantasy*, *Starfish*, *Mrs. C. Turner*, *Matchless*, *Sylvia*, *Mrs. F. Fell*, *Blanche Keith*, *Ensign*, *Leonora*, and *Robert Cannell* being set out in bold groups, with occasional small plants of *Pampas Grass* to relieve the mass of colour. There was also a good assortment of singles and pompons in good condition. These, with a collection of early *Chrysanthemums* of poor quality, completed a most extensive arrangement (silver Banksian medal). Mr. A. Kingsmill, Harrow Weald, sent a beautiful lot of *Vitis heterophylla humulifolia*, covered freely with blue and purple berries. Messrs. R. and G. Cuthbert, Southgate, had plants of the new decorative *Chrysanthemum Mrs. Wingfield*, a variety of dwarf habit, with flowers of a pleasing pink hue. Mr. W. Wells, Earlswood, Redhill, had a fine group of *Chrysanthemums*, representative of all sections of the flower. *Crimson Pride* was very fine. This, it should be stated, is the kind that last year bore the name of *Pride of the Market*, the alteration having been made because another kind had already had the same name bestowed upon it. *Mme. Liger Ligneau*, a fine yellow; *Ambroise Thomas*, crimson-brown; *Nellie Brown*, bronze sport from Ryecroft Glory; *Queen of Earlies*; *Mytchet White* and *Mytchet Yellow*, both excellent; *Bouquet Feu*, terra-cotta; *Ivy Stark*; *Roi des Precoces*; and *Jules Mary*, crimson, were very fine. A fine lot of well-grown Japanese kinds, together with some seedlings of promise, were included in this group (silver Flora medal). Mr. C. A. Pearson, Frensham Place, Farnham (gardener, Mr. J. Prewett), had several boards of very good blooms, mostly Japanese, among which *Mons. Chenon de Leche*, orange-amber and chestnut; *G. W. Childs*, Royal Sovereign, *Globe d'Or*, and *G. C. Schwabe* were good (silver Banksian medal). Another lot of flowers came from Exmouth, from Mr. Godfrey. *Le Grand Dragon*, *President Bevan*, *Autumn Glory*, soft lilac, *Beauty of Adelaide*, another pleasing lilac shade, *Rayonnante*, and *Werther*, crimson, were all fine blooms. *Emily Grunerwald*, a yellow, was very pleasing, though not quite full in the centre. Mr. Robert Owen, Maidenhead, was also the exhibitor of a nice lot of blooms, though many of these were seedlings and under no distinctive name. *Mrs. Winkley Smith*, Lord Boston, *Soleil d'Octobre*, *Miss Godsmark* (light bronzy brown, very pleasing), and *Miss Singleton* (white incurved) were good. A Japanese kind, *Miss Mary Leschelles*, is a white sport from *Reine d'Angleterre*, and a promising flower. This was shown

by Mr. H. P. Leschelles, Windlesham, Surrey (Mr. W. L. Farmer, gardener). A nice lot of blooms came from Messrs. H. Cannell and Sons. These were backed up with flowering sprays of *Polygonum molle*, the flowers abundant and forming a distinct foil to the *Chrysanthemums*; *M. de Blanc*, *Soleil d'Octobre*, *Lady Byron*, *Lady Ridgway* (gold-bronze), and *Mme. J. Henry* were all good. Another exhibit of these autumn flowers came from Mr. H. J. Jones, Lewisham. *President Nonin*, *Mrs. A. Cross*, *Mr. A. Barratt*, bronze sport from C. Harman-Payne, and *Julia Scaramanga* (a fine gold) were excellent. From Highgate, Messrs. W. Cutbush and Sons brought a mixed group of *Heaths*, *Skimmias*, *Palms*, *Pernettyas*, *Begonia Gloire de Lorraine*, and a capital lot of *Nerine Fothergilli* major in flower. One of the most striking plants in the hall on this occasion was a splendid piece of *Anthurium crystallinum* illustre with leaves 18 inches across and 24 inches long, of a deep green and olive-green shade, irregularly marked with large patches of cream and creamy yellow. This noble example came from Mr. R. Gulzow, Melbourne Nurseries, Bexley Heath. Other plants of *A. crystallinum* were sent for comparison. From Chelsea, Mr. W. Bull brought *Mimosa argentea*, a kind showing white near the midrib; *Ficus radicans variegata*, very pretty and as free in growth as the type; *Maranta picta* (*Calathea*) with deep olive-green leaves; and *Ceropegia Woodii*, a curious climbing plant, the foliage freely marbled with white on a pale green ground. Flower-trusses of the common *Horse Chestnut* were sent by Mr. Boyce, Marsh St. Farm, Dartford, to show the result of the season. This, however, is by no means uncommon in ordinary years, and one tree in the neighbourhood of Twickenham appears somewhat frequently in flower during the autumn months.

Fruit Committee.

The collection of Apples and Pears from Mr. George Woodward, Barham Court Gardens, was a notable one. Here was exhibited the cream of the fruit shown at the Crystal Palace, the Apples being remarkable for their size, colour, and finish. *Peasgood's Nonsuch*, *Mère de Ménage*, the *Queen*, *Lord Derby*, *Gascoigne's Scarlet*, *Emperor Alexander*, *Sandringham*, *Royal Russet*, *Warner's King*, and *Lane's Prince Albert* were remarkable. Of the dessert kinds, *Blenheim Orange* was a grand dish, as was *Mabbott's Pearmain*. *Worcester Pearmain* was the best dish we have seen this season. *Barnack Beauty*, *Wealthy*, *Ribston*, *Allington Pippin* and *Dutch Mignonne* were splendid. The best Pears were *Doyenné de Merroda*, *Brockworth Park*, *Beurré Alex. Lucas*, *Beurré Diel*, *Fondante de Thiriot*, *Nouveau Poiteau*, *Gen. Todtleben*, *Marie Benoist*, *Emile d'Heyst*, *Gansel's Bergamot*, and *Nouvelle Fulvie*. This excellent collection was awarded the Hogg memorial medal. Messrs. J. Cheal and Sons, Crawley, staged one hundred dishes of Apples and Pears. Though not equal to the Kent samples, the fruits were grandly coloured. *Bismarck* was very fine, as were *Bramley's Seedling*, *Royal Jubilee*, *Alexander*, *Annie Elizabeth*, and *Monstrous Incomparable*. *Blenheim* was excellent, as were *Ecklinville*, *Golden Noble*, *Grenadier*, *Frogmore Prolific*, *Loddington*, *Lord Derby*, and *Peasgood's Nonsuch*. In the dessert section, *Mother*, *Nancy*, *Dutch Mignonne*, *Ribston*, *Cox's Orange*, *Atalanta*, *Beauty of Stoke*, and *Worcester Pearmain* were excellent. The best Pears were *Conseiller de la Cour*, *Beurré Hardy*, *Glou Moreau*, and *Pitmaston Duchess* (silver Knightian medal). Messrs. Laing and Sons, Forest Hill, also staged one hundred dishes of fruit, *Bramley's Seedling*, *Bedfordshire Foundling*, *Bess Pool*, *Annie Elizabeth*, *Ecklinville*, *New Hawthornden*, *Hollandbury*, *Magnum Bonum*, *Mère de Ménage*, *Newton Wonder*, *Northern Greening*, and *Sandringham* being the best. The dessert varieties included all the well-known kinds (silver Banksian medal). Mr. J. Prewett, Frensham Gardens, Farnham, Surrey, had a nice lot of Pears and Apples, Wellington,

Lady Henniker, Lord Derby, Peasgood's Non-such, Blenheim Orange, Cox's Orange, and Ribston Pippin being good. The Pears were very good, Thompson's, Eyewood, Beurré Superfin, Louise Bonne of Jersey, Magnate, and Emile d'Heyst being the best (silver Banksian medal). Mr. Howe, Streatham, sent three good bunches of Black Alicante Grapes, and Mr. Miller, Coombe Abbey Gardens, showed *Passiflora edulis*, but the fruits were nearly green and quite hard. Mr. F. C. Bunce, New Galloway, sent ten sorts of Apples. Mr. Miller, Ruxley Lodge Gardens, sent half a dozen of Wm. Tillery Melon, a variety certificated twenty years ago. The fruits sent were much rounder than the original. Mr. Herrin, Dropmore Gardens, sent a very beautiful lot of Coe's Golden Drop and Brahy's Green Gage Plums. Mr. Vert, Audley End Gardens, Saffron Walden, had an interesting exhibit in fruits of *Gymnocladus canadensis*. Mr. Crump, Madresfield Gardens, Worcester, sent a seedling Apple not unlike Adams' Pearmain; also a dish of Maltster Apple, given a very high character for quality. Seedling Apples in great variety, but of no special merit, came from Mr. J. Fielder, Salisbury Green, Southampton. From Syon House Gardens, Brentford, Mr. Wythes sent the Melon which received an award at the last meeting, also an interesting exhibit in the shape of a distinct variety of Banana. This was a dwarf Cavendishi, the plant having been fruited under twelve months. From Messrs. Veitch, Ltd., Chelsea, came a very nice lot of St. Joseph Strawberry, runners from this year's plants, fruiting freely in 3-inch pots.

Mr. Beckett, Aldenham House Gardens, Elstree, Herts, staged a very beautiful collection of Celery, solid, large, and clean. In many cases the difference is very slight. Few kinds were superior to Standard-bearer and Major Clarke's. Early Rose, Superb White, and Leicester Red were also good (silver Banksian medal). Some eight kinds of Beetroot were brought up from Chiswick. Mr. Wythes also sent a new seedling Tomato, very nice fruits of medium size, perfect in shape, and of excellent quality. This was a cross between Duke of York and Conference, and the committee desired it to be sent to Chiswick for trial.

NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday last an interesting meeting of the floral committee of this society was held at the Royal Aquarium, Westminster, when the chair was taken by Mr. Harman Payne. The exhibits, mostly of a high average quality, came principally from Messrs. W. Seward, H. J. Jones, W. Wells, H. Weeks, W. J. Godfrey, and T. Spink.

First-class certificates were awarded to the undermentioned novelties, viz.:—

CHRYSANTHEMUM MRS. W. SEWARD.—A large finely-built Japanese, and, like many of Mr. Seward's seedlings, very rich in colour. It is deep in build, the florets flat and of good substance, and very regularly arranged. The colour is deep rosy cerise with a reverse of gold, and the florets are tipped and edged gold. Mr. W. Seward.

CHRYSANTHEMUM MARKET WHITE.—Decorative Japanese; a pretty little flower, colour pure white, tinted sulphur in the centre. From Mr. W. Wells.

CHRYSANTHEMUM JULES MARY.—Another decorative Japanese; florets narrow, stiff, and neatly disposed; colour bright crimson, reverse golden. From Mr. W. Wells.

CHRYSANTHEMUM MRS. W. CURSHAM.—In this the florets are broad and deeply grooved, twisted and intermingling at the tips, the ground colour white, shaded pale lilac-mauve. From Mr. H. Weeks.

CHRYSANTHEMUM MRS. WINGFIELD.—A very pretty decorative Japanese flower, somewhat resembling the Christines in form; colour deep bright pink. From Mr. W. J. Empson.

CHRYSANTHEMUM ADA OWEN.—A very nice-looking, regularly-built incurved, close and com-

compact flower, florets broad and stiff, the blooms of good size; colour pure white. From Mr. R. Owen.

CHRYSANTHEMUM LADY PHILLIPS.—An incurved Japanese, florets very broad; colour pale mauve, with a reverse of silvery pink. From Mr. R. Owen.

CHRYSANTHEMUM MRS. GEORGE HILL.—A pretty little decorative Japanese with white drooping florets, centre shaded yellow, very free. From Mr. H. J. Jones.

CHRYSANTHEMUM PRESIDENT BEVAN.—Japanese incurved, a big, massive flower, florets grooved and pointed; colour deep golden-yellow, shaded bronze. From Mr. W. Wells.

CHRYSANTHEMUM MAJOR MATTHEW.—An incurved, with rather narrow florets. It is a globular, well-built, medium-sized flower; rich rosy pink. Shown by Mr. W. J. Godfrey.

Specially noteworthy were the following: Miss Mary Leschelles, a pure white sport of great merit from Reine d'Angleterre; Miss Godsmark, a golden-bronze Japanese, which the committee wished to see again, as they also did Thomas Singleton. Mr. M. Russell, a fine golden-chestnut coloured incurved, was also asked to be sent up again. Mme. Couvat de Terrail, pale flesh-coloured Japanese, and Le Grand Dragon, a big yellow Japanese, were the objects of a similar request. Autumn Glory, a pink-coloured Japanese with a shiny reverse, was commended. Ellen Shrimpton, a very bright and pretty deep rosy cerise Japanese kind, and Mytchet Beauty, a golden-orange decorative variety of the Japanese type, the committee wished to see again.

Forthcoming foreign Chrysanthemum shows.—There are many indications of the way in which the popularity of the Chrysanthemum is spreading, but few perhaps so marked as the rapid growth of Chrysanthemum exhibitions abroad. Without taking into account American fixtures, which are almost as numerous as our own, it is interesting to note that in Egypt, Algeria, Germany, France, Belgium, and Italy Chrysanthemum shows will be held. A list of these will be found in our show fixtures.

NOTES OF THE WEEK.

Weather in the west of Scotland.—We are having summer weather here—55° in the shade—and all our Roses are doing beautifully. I have been cutting basketfuls of fine blooms every day.—RICHARD NIVEN, *Airlie, Ayr, N.B.*

Chrysanthemum Emily Silsbury.—Among the early-flowering white-flowered kinds, the one named is likely to become a permanent favourite. The blossoms are of good size and of a pure and snowy whiteness. The variety, too, is not of very tall growth, a by no means unimportant point.

Rhododendron Souv. de H. Mangles.—This may be counted among the most distinct of the javanico hybrids, and possessing also flowers of considerable merit and good colour. The predominant colour is a deep salmon, shaded orange, the two colours blended in the most beautiful manner.

Pæony foliage in autumn.—We are sending you a bunch of foliage cut in the open field from our herbaceous Pæonies to call attention to the beauty of colouring in the leaves. Pæonies with us are almost as beautiful in October as in May and June, and the foliage is in request for decoration.—KELWAY & SON.

Tibouchina (Lasiandra) macrantha is a very old and indeed a very popular greenhouse climber that will be freely recognised by its older name as above. Few plants are more deserving of general culture than this, for in the violet-coloured saucer-shaped flowers the plant is quite unique. It is a strikingly beautiful plant that is easily grown by anyone having a greenhouse.

Lobelia Crimson Gem is undoubtedly the finest of the dark crimson-maroon shades yet seen in these flowers. In this respect the variety is probably unique, though we incline to the opinion that in the garden the value of these very dark kinds is infinitely less than would be the case were they of a brighter shade. Nor should we forget the value of these things

in autumn decoration, when the more heavy and intense shades are even less needed than earlier in the year.

Solanum Seafortianum.—This very pretty and useful species from the West Indies is of climbing habit and flowers for many weeks in succession. The habit, too, is by no means without its pleasing features, and is graceful and elegant, though seen to best advantage when the drooping clusters of mauve-coloured blossoms adorn the plant for so long a period during the summer, and often the autumn months also. Like many species, it is not difficult to cultivate and may be grown in large pots or planted out.

Zizania aquatica (the Canadian Rice).—This rare plant was noted recently flowering freely in the aquatic tank at the end of the herbaceous ground at Kew. The plant, which reaches to nearly 7 feet high and produces a bronzy red inflorescence, is of erect, graceful habit, the long lance-shaped leaves gracefully recurving and impressing one by their breadth. Near by in the same tank was the Japanese form, *Z. latifolia*, which is decidedly more drooping and of a much more spreading habit of growth. Singularly enough, this species, though of good size, has not yet flowered, though growing under the same conditions as the Canadian form.

Crocus speciosus Aitchisoni.—Dr. Aitchison's variety of the fine *Crocus speciosus* comes into bloom with me a little later than the type where grown in a similar position. The flowers are rather larger than those of the type, but are less showy in their colouring. It is, however, useful to have some variety among the flowers of this fine *Crocus*. Dr. Aitchison's variety comes from Afghanistan, and has been in cultivation only a short time.—S. ARNOTT.

Colchicum hololophum.—Under this name I have a rather pretty Meadow Saffron, which here comes into bloom a little later than the majority of the other single-flowered *Colchicums*. In colouring it is a little more rosy than some of its congeners. According to the best authorities, *C. hololophum* is a synonym of *C. montanum*. It is possible that the plant here may be one of the forms of that species, difficult to distinguish without comparison of living plants. It is growing here through the foliage of one of the Pinks, and its flowers look well coming up among the glaucous leaves of the *Dianthus*.—S. ARNOTT.

Crocus hadriaticus var. chrysobelonicus.—The name of this pretty variety of *Crocus hadriaticus* is not likely to recommend it to many, and Dean Herbert might with advantage have given it a simpler and more pleasing name. It refers to the hill of Chrysobeloni, in Santa Maura, where it was found. The figure in Mr. George Maw's monograph hardly does justice to this pretty, if not showy, member of a favourite genus. The flowers are small and white with a yellow base, instead of the blue of the typical *C. hadriaticus*. The anthers are orange-yellow and the stigmata scarlet. My date for its flowering here this year is October 21, from established forms.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Aster alpinus and slugs.—The remarks relative to the fondness of slugs for *Aster alpinus* in the interesting article by "E. J." accompanying the coloured plate in *THE GARDEN* of October 22 make me ask if any growers of this pleasing little *Aster* have observed that these pests care less for the white variety than for the others. I have noticed this for several years, and while I find much difficulty in keeping the coloured forms, have little trouble with the white. I place their taste for the coloured forms thus: Purple, first; rose, second; white, third. I should not like to say that this is invariable, as it is seldom one has an opportunity of comparing one's experience in this with that of others, but this is what happens here.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Verbenas in October.—I forward a few flowers gathered this morning. The flowers of *Salvia splendens* are from cuttings taken in the spring. The plants have been in flower for about six or seven weeks, and the blossoms have been freely cut for indoor use. The *Verbenas* are from seed sown in February. They have been in bloom since the end of June, and the bed is still gay

with them, as they have flowered profusely, except during the last two weeks of the great heat in September. The scarlets are now not so vivid as a short time back.—P. SHEEHY, *Montebello, Totteridge*.

* * A beautiful gathering of flowers, the *Verbenas* large in truss and individual flower. Raising from seed is certainly the best way of growing *Verbenas*.—ED.

Tufted Pansies flowering late.—The welcome rainfall and consequent prevalence of moister conditions have quite altered the appearance of these plants. For a month or two they presented a poor appearance, and instead of there being a free display of blossoms, many collections have suffered considerably. A number of plants which were cut back early in August last have flowered freely within the last fortnight, and although my garden is very exposed, the display at the time of writing is good. *Isa Fergusson*, blue-black, shaded lavender, has been in splendid condition. *Pembroke*, a good rayless yellow, and many seedlings from this sort, have flowered profusely. *Aurora*, a splendid purple-violet and lavender fancy flower; *Nellie*, cream-white, rayless, and a large number of seedlings raised in the spring are still flowering.—D. B. C.

Chrysanthemums in the open border.—Varieties which during a normal season are seen at their best throughout September are now making a brave display, being probably two to three weeks later than usual. As a consequence the welcome display of colour in the outdoor garden is opportune, as the *Michaelmas Daisies* and other autumn flowers are mostly over. Mention should be made of *Mlle. Guindudeau*, a free-flowering pink sort, tinted and suffused white, and possessing a nice bushy, spreading habit; and *President Lefevre*, a pretty and delicate blush flower. A striking flower is *Bronze Dwarf*, its rich bronzy crimson blossoms, with golden reverse, being much admired. This variety has a splendid constitution, and the same may be said of *Ambrose Thomas*, which bears freely blossoms of a beautiful rich reddish crimson.—C. A. H.

***Dracæna Eeckhauti*.**—Among the green-leaved section of this family, the above, a kind that received an award of merit recently at the Royal Horticultural show, is worthy of note. It differs from several well-known forms, such as *D. terminalis*, *D. congesta*, and others of similar habit, in the shorter leaves being more thickly situated on the stem, in being much more recurved, and in their exceptional dark green colour. It frequently happens also that these green-leaved forms are fairly hardy, enduring the cool, dry temperature of the sitting-room for many weeks with impunity. These are the points that render them of the greatest value as pot plants, and the above, should it prove equal to the others in these respects, will make a useful addition to available room plants. It is of a much more graceful habit than is usually seen in these plants.

***Begonia metallica*.**—This free-flowering species is too little seen in gardens, probably also too little known. Indeed, when directing the attention of a gardener of middle age to some excellent examples in flower recently, he candidly informed me he did not know the plant, and was looking at it for the first time. Doubtless there are others who would with equal surprise note the fine examples of this species now to be seen at Kew, where for weeks past the plants have been a feature in one of the greenhouses. It is not only the size of the plants that attracts, it is equally the remarkable profusion of blossoms the plants carry and the handsome display such things make where they have received the necessary cultural attention. The flowers are white, and freely covered on the outside with pinkish hairs that produce a very pretty effect. Another kind with somewhat smaller foliage and rather similar flowers is *B. echinosepala*, possessing equal freedom of flowering. These are of especial value during the late summer and early autumn months, and are useful in large conserva-

tories or the like. With a little care both kinds continue flowering till the end of the year.

Chrysanthemum Queen of the Earlies.—On page 319 attention is called to an exhibit of mine at the recent exhibition of the National Chrysanthemum Society. The writer says that "the blooms were notable examples of this fine early white, that is, as far as the heads were concerned, for the stems, which were cut of an extraordinary length, were quite leafless—a possible result of the dreaded rust." Queen of the Earlies is almost rust-proof, but as the blooms had to be cut on the Saturday, the stems were stripped previous to being packed for the 200 miles journey, as by no other means could the blooms be prevented from wilting or the florets from drooping. For years past bare stalks have been exhibited by all the principal trade growers at the National Chrysanthemum Society's meetings, and if the writer will turn to the society's schedule either for this year or last, he will find that in certain classes it is insisted that the long-stemmed blooms be denuded of all foliage, the object being to retain the freshness of the blooms.—W. J. GODFREY, *Exmouth*.

PUBLIC GARDENS.

Addition to Epping Forest.—Mr. Edward N. Buxton's offer of twenty-eight acres, to be added to Epping Forest, was yesterday gratefully accepted by the Court of Common Council. The addition is at Yardly Hill, Sewardstone.

Pleasure ground for Newcastle.—We learn that Mr. Ralph Sneyd, of Keele Hall, has presented plots of land for pleasure and recreation grounds to the borough of Newcastle-under-Lyme and the neighbouring villages of Silverdale and Knutton. The Newcastle portion includes the site of the old castle of the feudal period.

Hampstead Heath extension.—At a recent meeting of the Paddington Vestry, the Rev. Walter Abbott presiding, it was resolved that the sum of £500 be contributed towards the fund for the purchase of Golder's Hill Estate, provided the estate is handed over to the London County Council for the public use as an open space. The General Purposes Committee of the Middlesex County Council have recommended a grant to be made to the Golder's Hill Acquisition Committee of £500.

The Metropolitan Public Gardens Association.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, W., the Earl of Meath, chairman, presiding, it was stated that the association had finished the laying out of Guy's Hospital ground, Bermondsey, and had begun the laying out of Albion Square, Dalston. It was agreed to begin work at the Paragon and Portland Place, New Kent Road, and at Plaistow Churchyard as soon as the transfer of these grounds to the local authorities had been completed. It was decided to provide trees for planting in Hoxton Market, to make a grant of seats for the ground known as the Clapton Pond and Paddocks, and to provide some gymnastic apparatus for a gymnasium in Whitechapel. It was mentioned in regard to two important schemes in which the association had been taking an active part—namely, the Queen's Wood, Highgate, and the Golder's Hill estate, Hampstead—that the former had been opened to the public since the date of the last meeting, and that the committee, under the chairmanship of Sir Henry Harben, had received great encouragement in the vigorous efforts made to secure funds for the acquisition of the latter, so that only about £1000 was now required to complete the purchase money, which it was hoped the Middlesex County Council and the Paddington Vestry would provide between them. It was announced that granite drinking fountains had been recently erected in Shoreditch and Pentonville Churchyards, Brooke's Market, Barnsbury Square, and East Ham Park by means of special donations made to the association, and that one-half of the additional

land for the Postmen's Park, E.C., had now been purchased and was being laid out, about £3000 being still required to complete the purchase of the remainder of the site.

The weather in West Herts.—Most of the days during the past week were somewhat cold, while the nights, on the other hand, were mostly warm. At the present time the ground is about 2° warmer than is seasonable, both at 2 feet and 1 foot deep. Rain fell on five days to the aggregate depth of nearly 1½ inches, or more than in any week for over a twelvemonth. During the past few days three gallons of rainwater have come through the heavy soil percolation gauge, and three and a half gallons through the light soil gauge. Both gauges are a yard square and the soil in them 2½ feet deep. The record of bright sunshine during the week was very poor, and on three days no sunshine at all was recorded. By 9 a.m. on the 18th the barometer had fallen to 28.80 inches, which is the lowest reading recorded here in October since 1886.—E. M., *Berkhamsted*, Oct. 18.

—A warm week. On three days the shade temperature rose above 60°, and on no night did the exposed thermometer fall lower than 37°. During the night preceding the 21st the lowest reading indicated by the same thermometer was only 48°, which is a high minimum temperature for so late in the month. At the present time the soil at both 1 foot and 2 feet deep is about 3° warmer than is seasonable. During the ten days ending the 23rd rain fell to the total depth of 2 inches, which is the largest amount deposited here in any consecutive ten days since December last. There was a good record of sunshine on the 23rd and 24th, but during the remainder of the week the sun shone brightly for altogether only about an hour.—E. M., *Berkhamsted*.

***Odontoglossum citrosimum*.**—This plant, referred to in our issue of October 22, p. 332, is grown in the way there stated in Mr. Mann's garden at Ravenswood, Bexley.

The Alpine Starwort plate.—The Alpine Aster (*A. alpinus* *superbus* and vars., pink and white) was drawn in Mr. Perry's nursery at Winchmore Hill, and not at Kew, as stated by error in the letterpress.

Earl's Court Exhibition.—We have been asked to state that the International Jury of the Earl's Court Exhibition, Ltd., have awarded Messrs. John Laing and Sons, of Forest Hill, the diploma and a gold medal for their display of flowering plants, &c., during the past summer.

Poor lawns.—My tennis lawns are nearly half covered with the dark brown parasite commonly known as witch's butter. Will any of your readers kindly oblige by telling me of an effectual remedy? The subsoil is chalk, covered with the usual vegetable mould, varying in depth from 2 inches to 2 feet.—JAMES STEVENS.

"The English Flower Garden."—The sixth edition is out of print, and the work is being rapidly reprinted, and will be issued in November. Henceforward it is proposed to bind a certain number in two vols.—I. Design, and II. Plants—in sage-green morocco, for library use or presentation. Published at 1 guinea nett.

BOOKS RECEIVED.

"The Farmer and the Birds." By E. Carington. With preface by Canon Tristram. G. Bell and Sons, Covent Garden.

"Culture of Flowers from Seeds and Bulbs." By E. Kemp Toogood, Southampton. Toogood and Sons, Southampton.

"Practical Rose-growing." By John Harkness, Bedale, Yorks.

"Manual of the Grasses of New S. Wales" (with illustrations). By J. H. Maiden, Government Botanist and Director Botanic Gardens, Sydney. W. A. Guelick, Sydney.

Names of plants.—*E. Niven*.—1, Moon Daisy (*Pyrethrum uliginosum*); 2, the Plantain is only a malformation.—*Fritz*.—*Lycium europæum*.—*H. Tibble*.—1, Aster horizontalis; 2, *A. laevis*; 3, *A. multiflorus*.—*W. Sanguin*.—*Kniphofia grandis*.

Name of fruit.—*J. Ridden*.—Pear *Beurré d'Amanlis*.

THE GARDEN.

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[NOVEMBER 5, 1898.

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ORCHARD AND FRUIT GARDEN.

SYRINGING PEACH TREES.

IN THE GARDEN, October 22 (p. 317), in the article on "Early Peach Houses," the following appears: "I think many failures in early Peach forcing are due to the thoughtless practice of syringing the trees in the afternoon on cold, wet days," &c. When I took charge of the gardens here in the autumn of 1887, it was decided to pull down the then existing old Peach houses and replace them with new ones, retaining some of the Peach trees, which to all appearance had been planted many years. The range was divided into three compartments and all heated separately. I had the old houses cleared away, built walls, &c., reduced to secure the full amount of front light in new range, then the houses built over the old trees, the work being carried out during December, 1887. By the time the work was completed the buds were swelling, consequently the trees were allowed to start away quietly and no syringing was done. The trees having been somewhat roughly treated during the building, and to all appearance not in a flourishing state, not much attention was bestowed upon them, there being so much else claiming attention. Nevertheless, all the old trees retained flowered fairly well, set freely, and eventually ripened a nice crop of very useful fruit in 1888. One of the compartments was entirely filled with young trees, which were planted in March, 1888, without being cut back in any way. During the growing season the strongest growths had the points taken off in order to better equalise the growth. The following year, when starting, the old and young trees alike were syringed carefully twice a day until the flowers began to open. In each case the buds dropped very much, especially on Stirling Castle, Royal George, and Noblesse, so much so that very little thinning of fruit was required. In 1889 and 1890 the same treatment was continued, with the same disap-

pointing results, namely, buds dropping. After having tried a good many, if not all, of the so-called remedies to prevent bud-dropping, I determined to try what the result would be in one house by discontinuing the syringing. To my surprise the trees not syringed dropped very few buds, set well, necessitating a good deal of thinning of fruit, and ripened their fruit well.

The following year all the Peach houses were thoroughly cleaned as soon as the trees shed their leaves, the borders dressed and watered, the houses started in due course, and strict orders given to the young man in charge that no syringing was to be done upon any account. The result was that with the single exception of one tree of Downton Nectarine every tree flowered splendidly, and set quite three times as many fruits as were required. From then until the present time the same practice has been carried out, and each year scarcely any buds have dropped; the fruit set freely, and required to be thinned freely. I crop heavily each season, the first Peaches being ripe as a rule about May 20. The young trees planted in March, 1888, grew away freely, and were allowed to fill their allotted space, never having been cut back beyond stopping any very strong shoot, as already stated. The old trees have all been cleared out and replaced with young ones. My opinion is that the most fruitful source of Peaches dropping their buds is the result of syringing the trees when the trees are started and the buds swelling. I would advise anyone who may be troubled with his Peach trees casting their buds to try for one season the result of non-syringing, and I am confident he will very soon adopt the principle. All the borders and paths in the house are damped every morning and afternoon from the time the house is shut up for starting until the flowers are open, and even then I do not allow anything like dryness in the house while the fruit is setting. As soon as the fruit is set the trees are slightly syringed at first for a few days; after that the garden engine is

used freely morning and afternoon, every part of the interior of the house being well moistened. Should red spider or aphid appear, a syringing with quassia extract very soon settles either.

Under the above culture, labour is reduced and the results all that I could desire. I grow the following sorts: Nectarines Pine-apple, Humboldt, Downton, and Lord Napier; Peaches Royal George, Stirling Castle, Noblesse (the best-flavoured Peach yet grown, in my opinion), Crimson Galande (an enormous cropper year after year), and Princess of Wales, which I think the best late Peach in cultivation, being a certain cropper, fruit large and of excellent quality. None of the trees have ever been root-pruned, heavy cropping rendering that operation quite unnecessary. By judiciously applying Thomson's Vine manure, enormous crops of fine Peaches can be obtained yearly and the trees maintained in vigorous health.

DAVID KEMP.

Stoke Park Gardens, Slough.

Cellini Pippin Apple on a wall.—Some of the very finest Cellini Pippins both in size and colour I have seen were from a tree growing on a wall having a south-easterly aspect at Barnby Manor, Newark. The crop was a heavy one. The soil at Barnby is shallow, and fruit trees on walls have to be mulched and freely watered in dry summers. On warm soils, where canker is not likely to affect it, this Apple does admirably on espaliers, the fruit growing to a large size and colouring beautifully where fully exposed to the sun. Fruits so grown are good enough for dessert if eaten when in their prime. Unfortunately, earwigs are very partial to this Apple, being easily pierced by them, wasps then following in their train. I have also always had to net the trees on espaliers against tomtits and blackbirds.—J. C.

Grape Muscat Hamburgh.—What a pity it is this magnificent Grape is so seldom seen in really first-rate condition. I do not see mention of a single exhibit of it at the late Palace show. A few years ago some fine examples were grown

and exhibited by Mr. Goodacre, of Elvaston. The late Mr. Fowler used to grow it well at Castle Kennedy up to 5 lbs. and 6 lbs. a bunch. Some of the best bunches I have ever seen were growing in a span-roofed house of mixed Vines near Birmingham some years ago. The Vine was inarched on to the Black Alicante, and the bunches, besides being of good size and well finished, had not a shanked berry in them. It seems to like a strong loam, and I know those at Castle Kennedy were grown in such a medium. I have an idea that varieties such as Muscat of Alexandria and Mrs. Pince are to a great extent prevented from shanking and shrivelling by having the roots in a heavy rather than a light loam, especially when the borders are inside, as such a medium retains moisture better and is of a more regular and even temperature. When well grown there are few Grapes that can surpass Muscat Hamburgh either for appearance or flavour.—NORWICH.

APPLES IN PAPER BAGS.

It is now some years since a very simple and ingenious method was contrived by the Apple growers of Montreuil for heightening the natural colour of Apples, enhancing their appearance and value at the same time. This consists in putting the Apples into paper bags, and after a given time removing the bags. I should say, however, that very probably when the first attempt was made, colour was not the principal object. The principal object then was the protection of the fruit from the eggs of butterflies engendering Apple and Pear worms (*Carpocapsa pomonella*). In any case the process is doubly efficacious, since both objects are attained. Trade also has benefited by it, as the bags are specially made for this purpose. The result obtained is in fact wonderful; the fruits so treated resemble Apples made of sugar or wax carefully coloured. Calville Blanc and Reinette Blanche du Canada, the two market Apples *par excellence*, have an incomparable whiteness and delicacy of skin without any lessening of their other qualities. Although bags are specially made for the purpose, the waste paper merchants also make bags as good and as impervious to rain and wind and possibly less expensive.

When the Apples are the size of a large nut is the time to put the bags on. After squaring the bag in the manner of grocers, a slit is made in one of the sides about 00·6m. to 00·8m. long. The Apple is then inserted, the stalk being run through the slit up to the end. The two edges of the slit are then brought together so that this side opening is made hermetically fast round the fruit stalk, then the proper opening of the bag is fastened in its turn by crushing the edges together and tying with matting or thin string. If, as one might be tempted to do, we should insert the Apple through the regular opening of the bag, it would be impossible to enclose the fruit without also including the leaves that surrounded it, and further, the ligature being tied round the fruit stalk would greatly impede the circulation of the sap unless it were tied loosely, in which case the object of having a bag would be lost, as the insects would enter in spite of it, and would find in it a sure protection from insecticides. The introduction of the Apple through the side opening obviates this objection.

During growth the Apple is thus sheltered against the inclemency of the weather and against insects. Only towards the month of September should the fruit be exposed to the light, and this should be done gradually, as otherwise the sun's rays striking upon the delicate skin would inevitably discolour the fruit. The right way, therefore, is to first of all cut off the bottom of the bag, and, later on, choose

some dull or rainy day for removing the bag altogether. The Apple being exposed to the air and the light, both agents combine to give it the fine carmine tint which is so much admired and never seen so clearly except in fruit that has been covered up in the way described. Producers take advantage of this method to print designs in a natural way on the skin of the fruit whilst still uncoloured on leaving the bag—a name, initials, &c.—and succeed in the happiest way. Last year, it will be remembered, the fruiterers of Paris exhibited in their shops some superb Apples with the arms of Russia printed upon them to perfection. This result is very easily obtained in the following way: The design is first cut out in paper, no detail being omitted. The paper known as "Joseph" is the best, as its transparency permits of tracing, and from its flexibility it is easily adaptable to the sinuosities of the fruit, which are sometimes very pronounced. The design is stuck to the upper surface of the Apple immediately the latter is withdrawn from the bag, and after a few days, the sun's rays having produced their effect, the fruit begins to colour, but only around the paper, under which the skin retains its normal tones. The time for gathering having come, the paper is removed, and the design appears perfectly imprinted on the fruit. Another way is before removing the bag to cut out the design on the side of the bag exposed to the sun. When the light enters through the aperture it colours the design on the fruit in red. In this case the bag should be left on the fruit until the time of gathering. This latter way I have employed myself for several years past to imprint certain initials.—CLAUDE TREBIGNAUD, in *Le Jardin*.

Peach Princess of Wales.—In the note by "H." (p. 255) he states that this fine Peach has little to recommend it except its handsome appearance. "H." has, perhaps, never tried it in pots. Grown in this way in a cool house and removed to a heated house to finish, with plenty of air day and night, and gathered as soon as it parts freely from the tree, the flavour is greatly improved. As a September Peach under glass it is very hard to beat, treated as I have advised. Gladstone is a pale coloured fruit of delicious flavour, and a fortnight later than Bellegarde.—M. T.

Raspberries failing to grow.—Of comparatively easy culture though the Raspberry is, failures often have to be recorded in the case of newly-planted canes. This is not to be wondered at when the canes are despatched from the nursery in a rough-and-ready manner without the slightest protection to the roots. These, which have sometimes suffered from drought before being lifted from the ground, are, owing to exposure during transit, so dried up as to be of little or no value. I have as a safeguard against failure arranged with the nurseryman to envelop the roots in some well-moistened material. This prevents shrivelling, and, if well soaked for a time previous to planting, their vitality is preserved. It is just the same with Roses.—C.

Peach tree failing to fruit.—I have in a house a Peach tree which bore no fruit this year. I was thinking of removing it outside, under a north wall, and covering it overhead with zinc. Please say if this would improve it, or what would you recommend?—E. Q.

* * You do not say what position your Peach tree occupies in the house, the variety, and, what is equally important, the age of the tree. You would certainly do wrong to put it on a north wall, which is the worst position possible. An east wall is not good, the best, of course, being a south or south-west wall. Had you planted your tree outside from the start it would have been better. You do not say if your house was heated; if so, to plant the tree, if of any size, on such an

aspect or even under the best possible conditions would be lost time, as it would certainly fail. On the other hand, if you reversed the conditions and planted a tree from an open wall in the house there would be a certainty of success. Peaches to do well need the best culture. They cannot get this on a north wall, as they cannot ripen the new wood made. You say your tree bore no fruit; why not adopt other means to make it fruit? If your tree is growing too strong, we would advise lifting. Now is a good time to do the work, carefully forking out all small roots and digging at least a yard from the tree. Probably you may find some large roots. These will need to be clean cut or shortened back, replanting a little higher and giving the roots some old mortar rubble, burnt soil, or anything that will induce a fibrous root growth. Replant as firmly as possible and do not give any manures, which can be given in the form of a top-dressing when the tree begins to fruit.—ED.

STRAWBERRIES AND THE DROUGHT.

ALTHOUGH a spell of hot weather is beneficial while the fruit is ripening, at no other season is protracted drought desirable in Strawberry culture. On light, porous land especially, many plantations will have suffered severely by the absence of rain since the crop was gathered. Of course, where a deep, rich tilth was prepared previous to planting, or in naturally cold, late districts with a retentive soil, the season has proved all that could be desired. In most gardens, however, in the south and midland counties, where only ordinary cultivation has been followed with probably a scarcity of water at command or the labour to apply it, there is a danger of the plants having been considerably weakened, and next season's crops will naturally suffer in consequence. But this is not the only disadvantage to be anticipated. In what condition are the plants this season which it is intended to force later on?

Never, perhaps, was greater difficulty experienced in securing suitable early runners or more attention needed afterwards to induce them to root freely into the small pots in which they were layered. The parent plants for the most part were in a parched condition at the roots, and, being spread over a wide area, it was not always convenient or possible to supply copious waterings. Moreover, red spider revels under such conditions, the foliage being smothered with this minute insect, giving it quite a burnt appearance, and, what is worse, preventing the fruit attaining either its full size or quality. The young leaves on the runners soon fell a prey also to its attacks. Then, again, the amount of time required to water the small pots twice a day could not be afforded in all gardens, with the result that when the season arrived for severing the young stock from the parent plants, it would be found they were of stunted growth and unsatisfactory in the extreme. Even when they were arranged at the foot of a north wall, where it was less trouble to keep them moist, they did not out-grow the trying ordeal they had experienced, and at the time of placing them into the fruiting pots they were about half the size they ought to have been. Those who have a good water supply and can flood their plantations with a hose as required know little of the difficulty less fortunate growers have to contend with in preparing the desired number of plants for forcing during a season like the past. It is the latter who are grateful for any hints that will assist them out of their difficulties, and perhaps the following method for raising next year's stock of plants may prove of assistance to those who have not already adopted it. The most common practice of raising Strawberry

plants for forcing is to layer the runners into small pots, sever them from the parent plants when sufficiently rooted, potting them up afterwards into the fruiting pots. The labour entailed from first to last is great, and can ill be afforded in some gardens during the height of summer; therefore, with limited assistance a less laborious method which is more likely to turn out successfully should be resorted to.

SECURING THE RUNNERS.

The much-needed rains have fallen recently in most parts, and, in common with all vegetation, Strawberry plants have greatly benefited thereby. The work of clearing the plantations of runners, weeds, &c., and affording a mulching of manure is work usually carried out about now. Instead of destroying all the runners, look the beds over carefully and secure all the strongest. Having cut the bine and nipped off the second lot of runners, raise each young plant carefully with a handfork, not altogether with a view of securing a ball of earth attached, but to prevent the roots being damaged. Having secured as many as are required, transplant them into nursery beds, allowing from 6 inches to 9 inches space between each plant according to their size and strength. Should the soil be dry, one good watering will settle the ground round the roots and induce growth at once, and so they will become established before winter. No more attention will be required until spring, when the hoe should be run between the plants to break the surface and check weeds. As the season advances the strongest may show a flower-truss, which should not be allowed to develop, or the plants would be weakened. The removal of runners, too, is necessary directly they form, so that all the strength goes to the plant. By these simple means strong, healthy plants will be secured for placing into the fruiting pots without the time and labour of using a number of small ones and the subsequent attention of keeping the small quantity of soil they contain in a suitably moist condition for the runners to root into. Moreover, plants raised in nursery beds are easily watered should it be necessary to do so, and, not being near old or exhausted plants, they do not become infested with red spider.

POTTING UP THE STOCK.

July is about the best month to pot up the plants. This allows of the pots becoming crowded with roots and the crowns well matured before winter sets in. Care, however, is necessary in lifting the roots, as at that season suitable weather, such as dull, showery days, are uncommon. It is a good plan to cut round each plant, say a fortnight previous to lifting, with a small, sharp spade to sever the longest roots, and to save this proving a check, a thorough soaking should be given afterwards if the foliage flags during the bright days, another watering being afforded a few hours before the plants are lifted if the ground be dry to ensure a good ball to each. Only a limited number should be lifted at a time and potted up at once. A cool, shady place should be selected on which to arrange the plants and the foliage kept syringed to prevent flagging, which would only be noticed for a few days. When new roots have formed and the plants are growing freely, a more exposed position should be selected to give strength to the new leaves, when the after-treatment is the same as that usually followed.

PLANTS FOR FORMING NEW BEDS.

Runners are always strong and plentiful in the autumn; therefore a good store should

always be selected and planted in the reserve garden for future requirements. It is too late then to transplant them direct to their permanent quarters and expect them to yield a crop the following season, but by careful handling they will make splendid plants for putting out, say, at the end of June, when a suitable piece of ground is cleared of some early crop. The great thing is to allow each young plant plenty of room to develop, say quite 6 inches each way, and not to crowd them together in shallow trenches, which is commonly termed "laying them in by the heels." Moderately rich soil, made rather firm by treading, and an open position prove most suitable, as when placed on deeply dug loose ground they grow too rank and the roots strike too deeply instead of forming a mass of fibres near the collar of the plants, and so enable them to be lifted with a nice ball of earth attached. A good reserve of plants always being available with a minimum of trouble or expense, they may be treated as annuals if desired, and no one would complain of the weight of fruit secured from a given space, as under this treatment planting may be done much closer than is the general method. I would strongly recommend the practice where early outside crops are required and valuable south and other warm borders have to be given up to them. I do not claim anything original in managing plants in this way—indeed, it is a practice followed many years ago—and though we are apt to ridicule much of our forefathers' handiwork as "being an old fashion," many of their methods might still be followed more closely with advantage, especially in trusting more to the open borders for raising young stocks of plants and less to the pot-and-house system.

ESTABLISHED BEDS.

As stated previously, these in most places have suffered severely, the main leaves having been practically scorched up weeks ago from the effects of the dryness of the ground and the prevalence of red spider. Much may be done, however, to restore vitality and render the plants capable of carrying good crops if taken in hand at once. The roots for the most part will be active again now the state of the ground is more favourable and capable of taking up any nourishment afforded, especially in the shape of liquid manure. Some of the worst of the foliage and all weeds and rubbish should be cleared from the beds and the space between the plants carefully hoed, not dug. If liquid manure can then be used freely, the roots will feed greedily and so be able to form good strong crowns this autumn; moreover, the ammonia will greatly assist to cleanse the plants of red spider. I would certainly prefer treating the plants in this way at once than let them remain as they are until winter, when the frozen state of the ground suggests the too common practice being followed, viz., wheeling on a mass of rotten manure and spreading on the surface. Feed the roots now and expose the soil between the plants to a few sharp frosts, which will act as a purifier and destroy slugs and other pests which prove troublesome in the cultivation of this popular fruit.

Goodwood.

RICHARD PARKER.

NOTES AND QUESTIONS.—FRUIT.

Pear Williams' Bon Chretien on the Quince stock.—I quite agree with "W. H." (p. 256) as regards this Pear on the Quince. I planted some cordons on the Quince against a south wall two years ago. This season I have gathered some splendid fruits from them, these being of large size and first-rate flavour, and much superior to Clapp's Favourite, which seems

rather shy in bearing and lacks the fine constitution of its parent.—M. T.

Late Nectarines.—An omission occurred in my note on late Nectarines (p. 308). After Spenser, Newton Seedling should have been mentioned. This is a particularly fine, mottled, richly-flavoured variety and a good setter. In a Peach house facing east at Hillside, Newark, this Nectarine succeeds well. This and Spenser may be planted on open walls in warm localities, but Victoria must have protection to ensure regular crops of well-ripened fruit.—J. C., Norwich.

Apple Allington Pippin.—Having had several opportunities lately of seeing this variety in a fruiting state, I am glad that I added it to my collection. In each instance the trees were bearing freely, the fruits being clean, of fair size, and of just the right size for the dessert. This Apple has, I think, a great future before it, while it is a more free grower than Cox's Orange, which it greatly resembles in appearance. It was also shown at the recent Crystal Palace show in good form.—A. W.

Peach Bellegarde.—I quite agree with what "J. C. T." (p. 308) says of this variety. I find it a regular bearer, the fruit of fine flavour, and almost black on the exposed side when fully ripe. I have a tree which was planted outside in 1872. It has had no protection except a fishing net hung in front of it, and every year since it has borne a crop of fruit. This season the first was gathered on August 20 and the last on September 26. Several fruits weighed 7½ ozs. each.—H. G., Lane Villa, Lancaster.

NOTES OF THE WEEK.

Osmanthus ilicifolius argenteo-variegatus.—A capital example of this well-marked shrub was noted at the Drill Hall the other day in Mr. Waterer's fine group of conifers. The specimen in question was about 2½ feet high, as much through, and very prettily marked with a silver variegation.

Chrysanthemum Nellie Brown.—This pretty bronzy sport from Ryeoort Glory was strongly in evidence at the recent meeting of the Royal Horticultural Society, plants and flowers in abundance coming from various sources. It is, however, an open question if there are not better kinds possessing the same tone of colour.

Aster turbinellus and the pretty single **Chrysanthemum** Miss Rose constitute a pair of most serviceable subjects for the greenhouse. Both are grown in some quantity at Kew for the decoration of the greenhouse, and arranged alternately in the Camellia section, which is always as cool as possible, remain a long time in good condition.

Gladioli, late-blooming kinds.—Since the introduction of M. Lemoine's spotted kinds the season of bloom has been considerably lengthened. I have a great liking for these late-blooming kinds, as they are so useful to cut from. At the present time (Oct. 24) I can cut nice spikes of a pale pink kind named Sultana. Calypso is another good late kind. These are most profuse bloomers and grow very freely.—DORSET.

Vitis heterophylla humulifolia.—A number of fruiting branches of this pretty Vine were shown by Mr. A. Kingsmill, Harrow Weald, at the recent fortnightly Drill Hall meeting. The mature stage of the fruits is an amethystine shade of blue, which gives a very pretty effect by the numerous clusters that form along the branches of the current season's growth. The plant is worthy of greater general attention from gardeners.

Salvia azurea grandiflora.—The value of this for late flowering in the open can scarcely be fully recognised, or it would be more freely employed. For some time past, while the garden has been gay with masses of early Chrysanthemums and Dahlias, there has been quite a scarcity of exceptional bits of colour, and at such times the value of so fine a plant in bloom is quickly apparent. The variety will endure several degrees of frost with impunity.

Zephyranthes candida.—Just now in the rock garden, or indeed in any position where it can be accommodated, this is one of the most charming of bulbous plants now in flower. The blossoms are exquisite in their cupped form and very pure, and when fully expanded in the warmer parts of the day it is a pretty flower indeed. The commoner form, Z. Atamasco, is also in flower, and makes one of the prettiest possible displays at this season to be found among dwarf subjects.

Euryops Athanasias.—The golden Marguerite-like flower-heads of this plant should render it a very

striking subject for the greenhouse, provided the species blooms with the same profusion as the Marguerite. This, however, is scarcely possible judging by the plants now in bloom at Kew, and which are producing flower-heads somewhat sparingly. The growth generally and the foliage give a very distinct aspect to the plant, quite unlike that of anything else bearing similar flowers.

Salvia splendens grandiflora.—When frost and pelting rains and cold nights have caused the beds in gardens generally to be cleared of their usual summer occupants, it is gratifying to note this striking plant flowering on as freely and as persistently as could only be expected in the cooler days of summer. It is therefore of more than ordinary value, and a mass of it in full bloom at Chiswick in the gardens of the Royal Horticultural Society, on the 29th ult., and which has been flowering for weeks in succession, is a sight worth remembering.

Oxalis hirta.—Just now in the mixed collection of Cape flowering subjects in the No. 7 range at Kew several pretty kinds of Oxalis are in bloom. The above has large handsome blossoms of a mauve-lilac shade, and the variety *O. h. rosea* has flowers of a rich carmine-rose shade. *O. crenulata* is almost identical in colour, and is certainly a very showy, as it is also a free-flowering, species. As a marginal plant in the cool greenhouse or conservatory these pretty Oxalises are suitable.

Vanilla planifolia.—Stretching along the entire back wall of one of the Banana houses in the gardens at Syon House is what may be termed a plantation of Vanilla, which has not only grown with exceptional freedom and vigour, but is now yielding its fruits in abundance. The clusters are composed of from ten to eighteen individual fruits, a fact alone which speaks for itself. Many of the fruits are nearly 9 inches long. The crop as a whole is a valuable one, and is regarded by Mr. Wythes as the finest he has ever had.

Chrysanthemum Australie.—This is probably among the largest ever raised. Essentially an exhibition kind, it yet possesses a wondrous vigour of growth, and in the great length of the peduncle, which holds the massive blooms erect, it is possibly unique. A probable drawback is its great height, the plants reaching fully 7 feet, the enormous blooms therefore not readily seen in the ordinary way. The colour is rose-amaranth, with silvery reverse. This variety is grown in quantity by Mr. Wythes at Syon House.

October Dahlias.—Possibly nothing could more fully demonstrate the exceptional mildness of the season than the wonderful array of Dahlias of all sections to be seen at the recent meeting in the Drill Hall. The flowers were as fresh and clean as is usual in the heyday of their beauty. Nor was it a blossom or two of each kind, the sorts generally being represented by two or three dozen flowers each—a remarkable display for the 25th of October. The effect of the blossoms was good amid the usual gloom of the ever-gloomy Drill Hall.

Browallia speciosa major is among the most beautiful of blue-flowered plants at this time and a plant specially suited to the warm greenhouse. It is, moreover, one of those subjects that does not lend itself to cutting so much as some things, and for this reason the plants are attractive over a long season. The continued demand for plants only suitable for supplying cut flowers in quantity has been the means of ousting not a few of the prettier subjects that are not specially useful in this way. At the same time this *Browallia* is particularly pleasing and in many a greenhouse rare.

Lateness of outdoor Chrysanthemums.—Many of the so-called summer-flowering Chrysanthemums appear much later this year than was the case, for example, in 1897; indeed, many of the kinds marked as flowering in the first three weeks of September had not opened a solitary bloom when September was past and gone. Whether this is general is difficult to say, but in many gardens around London it is the case. In my own case I attribute it to the dry state of the soil for so many weeks both at planting-time and

later, thus preventing any progress at a most important season.—GROWER.

Michaelmas Daisies.—The splendid group of these flowers brought recently to the Drill Hall by the Messrs. Veitch and Sons showed the value of these things for lifting for pot work. The whole of the plants were handsome bushes, and, for a year phenomenally dry and intensely hot, well grown and flowered. The evidences of lifting, too, were very meagre, showing, when carefully done, how little the plants suffer in consequence. This with due preparation will leave the plants but little worse for the operation, and where whole sheaves of blossoms are needed, these Starworts mingle remarkably well with Chrysanthemums and other flowers.

Dimorphanthus mandschuricus in fruit. —I send a specimen of *Dimorphanthus mandschuricus* in fruit. I planted it twenty-two years ago, and never remember it to have been so grand as this autumn in flower, and it is scarcely less beautiful in fruit, though all the richly coloured foliage has disappeared. The specimen herewith has suffered from wind and rain in the past fortnight, and some white fluffy remains of infertile flowers have only just fallen; those among the fruits had a pretty effect. In light land and a sunny place this dwarf tree is always attractive, especially in late summer and autumn. —J. Wood, Woodville, Kirkstall.

Bouvardia odorata alba.—Among the long-tubed section of Bouvardias few are of greater value than this. Indeed, as a pot plant it would be preferred by many amateurs by reason of the somewhat shorter tube of the flower, and which is less likely to break or double over as compared with the varieties having longer tubes. Besides the fragrance, which is very decided in this kind, there is a tint of flesh in the unexpanded buds and also on the reverse side of the divisions of the corolla. The latter is in size about intermediate between that of *B. jasminiflora* and the equally well-known *corymbiflora*, the flowers freely borne on compact, bushy-habited plants.

Chrysanthemum nipponicum.—This is a remarkable species if only from the point of view of its wide-spreading habit of growth. The species is of Japanese origin, growing about 2½ feet high, freely branched and furnished with large and almost fleshy leaves, deeply notched at the margin. Grown from seed and planted in good ground the plant would arrest attention by its foliage and growth generally. This year, however, the long drought has kept its growth as well as flowering in check. Indeed, scarcely any flowers were apparent till the rain set in a few weeks since. The great almost succulent leaves, moreover, do not impress one as to the absolute hardness of the plant, which is not likely to be much of a gain.

Funkia subcordata grandiflora.—Your advice to "W. W." as to the growth and requirements of Plantain Lilies is excellent, but I fear will be of no avail to flower *Funkia subcordata grandiflora* unless your correspondent's garden is in a very warm part of England. I have had this Plantain Lily more than twenty years, and have quite failed to make it bloom, except in the greenhouse; there never seems enough sun-heat for it out of doors. Five other varieties of *Funkia* flower well here every year. Sieboldi is the best of them; its blue-green leaves, which turn in autumn to a lovely shade of yellow, its compact lilac and white blossoms, very freely produced, and its robust growth make it one of the finest of hardy perennials. —J. H. W. Thomas, Belmont, Co. Carlow.

Delphinium sulphureum (Zalil).—It is to be hoped that the illustration of the well-grown group of this yellow-flowered Larkspur in THE GARDEN of October 29 will induce others to at least make the acquaintance of so distinct a plant. It is really a very pleasing Larkspur, whose principal drawback is its being practically an annual or biennial species. This has been very well pointed out by "E. J." in the article accompanying the illustration. My experience with

this Larkspur corroborates the practical information given by "E. J." in other respects. It will be seen from the illustration that there is some difference in the spikes. This I observed in my own garden, some being much looser and less compact than the others. From seed there was also a slight variation in colouring. With me this Larkspur did not ripen seeds nor did it flower the second year. It sent up a few weakly shoots after blooming, but these dwindled away. Those desirous of growing this sulphur-yellow Larkspur could not do better than follow "E. J.'s" advice as to its culture. —S. ARNOTT.

Androsace lanuginosa.—This lovely free-flowering alpine is almost as gay as it was in the end of the month of May, and any alpine that has such an uninterrupted period of flowering should certainly be regarded with general favour. Throughout the whole of the past six months this pretty plant has produced quantities of its pleasing coloured heads of bloom. Nor is it now an accidental or solitary head of bloom, as on the last day of October exactly two dozen flower-trusses were in full beauty on one little patch and a similar lot on another hard by. In the genus as a whole there are many exquisite gems that give cultivators great trouble, not to say anxiety, and even with the best care many losses are recorded. The above trailing species, however, is not of this number and may be grown with perfect success by any amateur in deep sandy loam and leaf-mould. A deep root-run is very helpful for such things, and a mulching of small stones will retain a considerable amount of moisture to the benefit of the plants in dry seasons.

Crocus lœvigatus.—While the late autumn and winter Croci suffer much from the heavy rains of the time, and are consequently only a short time in full beauty, they are most attractive in the garden. Among these late-flowering species the pretty little *C. lœvigatus* deserves a place in our gardens. It is a variable species in its colouring, especially in the marking of the outer segments. In his monograph (plate 49) Mr. George Maw gives a series of flowers illustrating this variation. Some of these varieties I have not met with, but any would be worth taking care of. The inside of the flowers varies from white to lilac, and the outside is sometimes self-coloured buff, or suffused or feathered with purple. I have a very pretty form here deeply suffused with rich purple and having the interior of the flowers almost white. The fact that the leaves come before the flowers is to me an additional recommendation in favour of this little Crocus. It is of dwarf habit—a considerable point in favour of a flower which comes when stormy weather is prevalent. According to Mr. Maw, *C. lœvigatus* comes from the Morea, the mountains about Athens, and the Cyclades. —S. ARNOTT.

Early-flowering Chrysanthemums.—The early and semi-early kinds of Chrysanthemums to many people seem hardly worth the trouble of growing; yet in the garden in the autumn they deserve a prominent position, being in most cases of a dwarf and spreading habit of growth, free and continuous flowering, their season extending over quite two months. The out-door garden may with a wise selection of varieties be made gay with them during September and October, and into November in seasons such as the present. They also stand frost well, the blooms not being in the least injured after a cold snap. Plant them out in May in good, rich soil, giving plenty of room, and sheaves of bloom will be forthcoming in the dull autumn months. Messrs. Dobbie and Co., of Rothesay, send us a beautiful collection of these from the open ground, these including all the well-known varieties, some of the kinds, though introduced many years ago, still ranking among the best. Of those sent, a few of the best Japanese are Coral Queen, Mme. Marie Masse, Lady Fitzwygram, Mytchett White, Mons. Gustave Grunerwald, Roi des Precoces, Notaire Groz, and Orange Child. Of the pompons we note Mrs. Cullingford, Fred Pele, Jacintha, Martinmas, Strathmeath, Nanum and Silver-smith.

THE DOWAGER LADY HOWARD DE WALDEN'S GARDEN AT ST. JAMES'S, WEST MALVERN.

ONE does not expect to find a noteworthy garden on the Malvern Hills. To those who know this grand mass of igneous rock, rising abruptly from the fertile plains around and dominating them like a crowned monarch—covered, as it is, with close turf and Gorse broken every here and there by projections of the red-purple stone, while, except on the lowest fringe of it, absolutely treeless—the thought of a garden, a very storehouse of horticultural treasures, would be about the last to suggest itself. But the present decade has seen a new departure in this respect, for, somewhere about the beginning of it, the Dowager Lady Howard de Walden, the possessor of a picturesque strip of the western slope of the hills, having built a stately

by the tiny streams of pure water with which the hills abound, furnishes somewhere about sixteen acres for garden culture. While sheltered from the north and east winds, it lies open to the west and south-west, and affords a rich variety of views extending southwards over the hills of the Forest of Dean, and westwards over the Black Mountains and other hills of Brecknockshire and Radnorshire, which are (and will be more and more as the growth of the trees creates a succession of vistas) of quite exceptional beauty. The mansion on the garden side is flanked by stone terraces, adorned with handsome balustrades and covered cloistral walks, crowning effectively the rich vegetation beneath. Immediately below the terraces on the western front is a sloping lawn, of which, at the time of my first visit, the prominent ornament was a large bed, some 20 feet in diameter, filled with plants of the Crimson Rambler Rose, trained on wires

work of more or less prolonged experiment to adjust the contents of the several beds and borders in respect to colour, height, and time of flowering, and this is evidently an object which the skilful head gardener, Mr. Fielder, is setting himself, so far as it has not been already attained. In one respect he is helped in this by the uniform moisture which seems to permeate the soil just beneath the surface, for an evidence of which we might see a plant like *Polygala Chamæbuxus* growing freely and pushing up strong shoots on rockwork with a southern aspect and in a scorching summer like the present, not to mention that plants, such as *Arenaria balearica*, and even *Spigelia marilandica*, did not suffer greatly from pretty much the same position. Beneath one of the upper terraces a noble line of *Romneya Coulteri* was flowering splendidly, covered with mature blossom and with much promise for weeks to come.

A long narrow border of *Tigridias* of more than one variety edged one of the green grass walks, which are a feature of the garden and are but little browned by the heat wave of 1898. The two species of *Zauschneria*, *californica* and *latifolia*, were used largely for late summer decoration, as also were *Pentstemon barbatus Torreyi* and *Montbretia crocosmiiflora*. With regard to the last of these, I ought to notice that a considerable space under one of the terraces was devoted to its newer varieties. Some few—those sent out as *Eldorado*, *Feu d'Artifice*, *Flore jaune*, and *aurea*—were noticeable for distinctness of colour, but of the majority it must be owned that they were scarcely distinguishable from the normal hybrid. But probably hardly anything in the garden in the latter half of August would strike a visitor more than the wealth of magnificent *Gladioli*, mostly *Lemoine's* hybrids, which was displayed.

An enumeration of the more beautiful of these, where all were beautiful, would be difficult, but I took note of a few which were perhaps the most perfect in form and colour, or at any rate pleased me most. These were *Professeur le Monnier*, *Masque de Fer*, *General Sausier*, *Le Grand Carnot*, *General Canrobert*, *Fulgurante* and *Deuil de Carnot*. In no garden, either private or professional, have I seen so striking and, I fear I must add, so costly a collection. Another feature of the garden perhaps quite as remarkable—though with regard to this I speak with but very limited knowledge—was the collection of hardy

Water Lilies (*Nymphæas*) of many colours, growing in large stone-edged basins, the water of which was supplied by the little streams which trickled down the slopes. Many of these had passed their best, but *N. gloriosa*, *Ellisiana* (a deep red), *Marliacea ignea*, *M. Chromatella*, *M. flammea*, *Laydekeri*, *fulgens* and *aurea* must, when in full flower, be things of beauty indeed.

Even so slight a notice of this garden would do it an injustice which failed to include the rich variety and abundance of conifers and other ornamental trees and shrubs which over-spread it. The number of golden varieties of all sorts of trees was conspicuous—golden Elms and Oaks, *Catalpas*, a golden *Cedrus atlantica*, golden *Deodars* and *Yews*, and though last, not least, an avenue of considerable length of the golden *Cupressus macrocarpa*, which, if winds and frosts are merciful to it, will be, perhaps, unique. Of flowering shrubs, *Olearia*



View in Lady Howard de Walden's garden at St. James's, West Malvern. From a photograph sent by Mr. A. Dean, Kingston, Surrey.

mansion at one end of it, has completed her task by the formation of a garden, which promises to become one of the most remarkable as well as most beautiful and richly equipped in England. As I have been kindly permitted to pay it several visits recently, a short account of it may interest the readers of THE GARDEN.

The garden proper I am thinking of as much of it as is devoted to herbaceous and other hardy plants, as well as ornamental trees and shrubs, apart from the numerous glasshouses grouped on its lower limit—occupies a space running from north to south along the lower slope of the hills, and parallel to their longitudinal axis, of about half a mile in length and of an average breadth of 300 yards or 400 yards. This belt of light, yet retentive soil, interspersed with the *débris* of rocks, and scored here and there by the little chines or hollows, worn away

in a sort of mushroom form, the warm glow of the abundant blossoms delightfully tempered by the bright green foliage. At a little distance was coming into flower a large bed of *Hydrangea paniculata grandiflora*, with regard to which I may remark that, in another considerable breadth of this grand plant in a less exposed part of the garden, its growth was so luxuriant, that one single panicle of flower which I caused to be measured yielded a girth of 23 inches and a length proportionate. Not far off on the same sloping lawn was a warm, dry bank covered with the trailing Japanese Rose, *Rosa Wichuriana*, of which the peculiarly delicate scent, reaching as the plants did over a space of some score square yards, filled the air around. Of course, in a garden of this character, where some of the choicest products of modern horticultural skill and enterprise are gathered in the greatest profusion, it must be a

Haasti was in profuse blossom, and lent much brightness to the plants of darker foliage. Roses, Lilies, and Carnations were in rich luxuriance—*cela va sans dire*. I suppose nearly a quarter of an acre was filled with the choicest Tea Roses maturing their autumn growths. *Rosa rugosa* was growing in masses with a freedom which I have never seen surpassed, many of them showing flowers of a deeper red than the ordinary form. Among the Lilies, *Lilium auratum* platyphyllum would, I think, have borne the palm for vigour. At the corner of the garden furthest from the house were large breadths, recently planted, but coming well into flower, of hardy Heaths, among which were conspicuous *Erica vagans alba* and *Calluna vulgaris* of the varieties *Alporti* and *Drummondii*. I must not close this imperfect sketch of a most interesting garden without placing on record two beds of singular gracefulness, consisting of the little-known *Watsonia iridifolia* O'Brieni, the amount of blossom on which, especially after recent rain, impressed me with its value for out-of-door summer decoration. More ordinary plants, such as the several species of *Hemerocallis* (including *H. aurantiaca major*, which seems to open its blossoms best when in vigorous growth), were everywhere *en evidence*, and of rock plants, which were in great abundance, a grand form of *Heuchera sanguinea* (the flower-spikes of which were three or four times the size of the ordinary type and much brighter), *Cytisus shipkaensis*, *Gentiana septemfida*, *Lithospermum graminifolium*, *Silene acaulis grandiflora*, not to speak of a host of others, showed admirable healthfulness; while I must not omit to mention the brilliant and beautiful strain of *Dianthus Heddwigi* and the annual *Salpiglossis*. I wish it were in my power to call up to the minds of my readers by what I have written a picture which should give a hundredth part of the pleasure which I have derived from the actual sight of this remarkable garden, which is still, it must be remembered, in its *première jeunesse*.

CANONICUS.

KITCHEN GARDEN.

POTATOES.

I WAS much interested in Mr. Tallack's notes on Potatoes (page 303). Potatoes, probably because they are an all-the-year-round vegetable and cultivated by everyone, do not command the notice by the general reader or writers they might do. There are a great many interesting phases in their cultivation. The exhibitor, for instance, who shows collections in variety, finds a stimulant in any new variety that may be issued by trade growers, or in an older sort brought to his notice by friends. The cottager and allotment holder are equally as keen often-times in the matter of variety as private gardeners. Of this, ample demonstration is afforded at the summer shows, of which there are so many. Generally, too, an ideal becomes prominent; some choose a large tuber as such, others a medium sample, some prefer rounds, others kidney-shaped, and while the coloured sorts claim some adherents, others disdain all except those possessing a clear white skin. It matters nothing how handsome the Potato may be in outline, or whether it be round or kidney, coloured or white-skinned, unless it can be pronounced good after cooking, the pleasures derivable from its growth vanish, and disappointment continues day by day so long as the soapy or otherwise poor quality is presented for consumption. A very good text is furnished in Mr. Tallack's concluding paragraph, where he

says "I find that certain varieties suit certain soils, so that it is wisest in dealing with Potatoes not to be guided too much by hearsay, but to experiment for oneself." The choice of variety suited to the soil is one of the most important studies the grower can undertake, and this can only be done by experiment and close observation. It is more important to the gardener who has to provide an all-the-year-round supply. The market man finds a similar experience, compliment or condemnation meets him according to the quality of his goods, and I am fully convinced that if only a little more careful study were brought to bear on the matter better Potatoes could be had everywhere. This, as Mr. Tallack points out, can only be done by experiment, and where the home consumption is the primary object, surely this is not demanding exertion out of proportion to the needs of the case or the reputation of the garden.

When I took charge of these gardens I learnt that Potatoes for many years were bad, and the reputation became so fixed in everybody's mind that it was considered hopeless to try to get a good eating Potato. There were a great many sorts planted in small or larger quantities, and my first step was to test by cooking, and discard all that were found inferior. This was continued for three seasons, as affecting the main crop, and in the end the selection was reduced to two—Snowdrop and Beauty of Hebron. A discordant word is never heard now on their quality. The reason for this failing was that the ground was too strong through the use of manure. This may have been so as regards some kinds, but in the case of the two now largely grown it does not apply. As showing the futility of such an argument, I make a point of giving a heavier dressing of decayed manure to the principal quarter set apart for Potatoes than any other, and for two reasons. Potatoes and Brussels Sprouts share the same plot, and most gardeners admit the necessity of rich land for giving a heavy yield of sprouts in the winter, and the acquisition of over a sack of Potatoes from every perch planted at 3 feet apart demands good ground. Often the Potatoes are so strong in the haulm that the sprouts become heavily shaded in their earlier stages, but as the varieties grown mature in early summer, there is the opportunity of digging before the sprouts have suffered much, and with a yard space between each they soon make good any loss of time from this cause—at least when the weather is favourable. This year the weather has been unfavourable for both crops, the Potatoes were planted and the crop lifted without any appreciable benefit from rain. Notwithstanding this, the crop, though lighter than in other years, was very good. Mr. Tallack expresses disappointment with Snowdrop this year on account of the depreciation of crop. I should think a fresh stock of seed desirable, particularly as a change in the case of *Magnum Bonum* did so well. I do not find any loss of vitality in the variety, but I find it requires richer land than some kinds to do it full justice. For field culture I have entirely discarded it in favour of *Maincrop* and *The Bruce*. Its constitution is not strong enough for the rougher methods adopted in farm cultivation. Abundance, *Windsor Castle* and *Sutton's Seedling* are first-rate main-crop varieties in some soils, but in this garden they are useless. *Victory* was a Potato that was retained for a few seasons on account of the high quality of its tubers. It was a heavy cropper and very early to ripen.

For early digging I have not so limited a selection, it is not always such an easy matter to get

a sufficiency of stock among the first earlies, because the demand taxes the supply in the early season. The extended list, too, comes from purchases made for comparison, those which show any advance in earliness, weight of yield, or frost resistance—an important point in a first early—preponderate over those less satisfactory. Veitch's and Carter's *Ashleaf* are very similar in every way and are good hardy sorts. *Ringleader* is a good Potato, both in cropping and flavour. The hardiest of all in my seed-stock is a selection of the old *Ashleaf*, when *Ringleader* and others have been badly damaged by frost this suffered but very little; *Sharpe's Victor* is good in every point except hardness. This has the tenderest foliage of all I grow. *Sutton's A1* and *Harbinger* are both rounds as early as the kidney sorts just mentioned. I have not compared them together for weight of yield. The latter is the heavier cropper by quantity, but the larger size of the tubers in *A1* probably would make them equal, and the same might obtain in comparison with the kidney sorts.

Those who have been satisfied with slovenly methods have had their reward in poor crops, the bulk being more suited for seed and pig food than domestic use. In poor soil, and this indifferently cultivated, premature ripening was very general. Late sorts in August commenced to throw out a quantity of root-strings and a tendency to supertuberation, the stalks became deeply coloured, and the inexperienced persuaded themselves that the prospects for a crop had become more assuring. Others took a more serious view of the case and cut down the tops with scythe or hook, some digging at the same time to save what crop there was from being spoilt. One gardener of my acquaintance had all his main-crop lifted by the middle of August. These, however, were planted early in the season, which was all in their favour. Disease hereabouts has not been serious; indeed, in some kinds there has been none, a fortunate coincidence when the lightness of the crop, speaking generally, is taken into account. In the southern counties the drought must have been less keenly felt than in some parts, judging from the large tubers displayed in the vegetable classes at some flower shows visited. I could not refrain from an expression of surprise at the large-sized Potatoes chosen by exhibitors, especially in the collections of vegetables. A medium sample is generally accepted as being superior in every way, and certainly an otherwise artistic display of vegetables loses a point in this choice of large tubers, particularly when arranged, as some are, in a single line along the front of the other dishes. Potatoes repay as much as anything a garnishing of Parsley, and to my mind show to much greater advantage set up on a dish than arranged in single file along the front of the staging. A great many Potatoes exhibited this summer were badly scarred through the skin's contact with the hard soil, and this is especially noticeable where there is gritty matter in the ground.

Rood Ashton, Wilts.

W. STRUGNELL.

Tomato Up-to-Date.—I see in the report of the meeting of the fruit committee at the Drill Hall on the 20th that this at present comparatively little-known Tomato was shown, but although pronounced of excellent quality it received no award, being considered too much like *Conference*. Doubtless from a heavy cropping and disease-resisting point of view *Up-to-Date* is unsurpassed. At Gunton and also at Bickling it is grown almost exclusively, and for market, men in the Norwich district grow it

largely. I should very much like Mr. Iggulden to give it a trial next season. In one garden I saw it growing by the side of Ham Green and other popular sorts, and while the latter were badly affected with disease, Up-to-Date was entirely free. It has retained this character now for several years.—J. C.

The value of wood ashes.—Mr. Gilman, in his recent note on the vegetable crops at Alton Towers, attributed the freedom of the Carrots and Onions from grub to the use of wood ashes when the seed was sown. In one garden where the grub was troublesome, especially amongst Carrots, I used it freely, and the attacks were greatly lessened. All the prunings of fruit trees and bushes and thinnings of shrubberies were burnt each spring, this providing a large heap of ashes, valuable for garden use in many ways. Wood ashes is also a good fertiliser, and mixed with rough leaf-mould is often better for early vegetable borders than farmyard manure. When stored in a dry place it is very useful during

of Spanish which he has had for many years. The bulbs are invariably large, shapely and well ripened, this being no doubt attributable to the extra room allowed them. A space of 2½ feet is left between the rows and several inches between each bulb, the intervening space being filled with young Strawberry plants early in August. Sun and air are thus enabled to effectually influence the crop, which ripens not only thoroughly, but early, and although the bulbs are large, they keep well. The solid root-run suits the Strawberries and retains moisture much better than newly-prepared ground.—J. C.

Tying up Lettuces.—Throughout the summer and autumn months the Cos varieties of Lettuce grown are chiefly those which fold their leaves naturally closely together and need no tying to induce hearting. Earlier in the season such sorts as the Bath Cos need tying. This is only a simple matter, but for all that some little judgment as to when and how to do it is needed. Good Lettuces may very soon be spoilt by being

over. One large growing kind had not folded in. During September and October, Cabbages from the portion that was allowed to remain sold in the same town at from 1s. to 1s. 6d. per dozen. According to present prospects green vegetables will be scarce before the spring; in fact, they now are dear in this (the west) district. The long, dry weather prevented many from planting, while those that were planted made no headway; added to this the caterpillars destroyed many a promising crop. A neighbour of mine who had a big lot of fine Cauliflowers and Brussels Sprouts told me a day or two ago they were ruined.—J. CROOK.

Round Potatoes.—Although it is very difficult to determine on exhibition tables many so-called round Potatoes from kidneys, because there are so many of intermediate form, yet we have numerous really good, true rounds that merit wider cultivation and should be more largely included in collections staged for prizes. Judges should give great consideration to distinctness when dealing with collections. The new Challenge is one of the truest and handsomest of white rounds. Syon House Prolific and Windsor Castle, too, are good. Goldfinder, White Perfection, Snowball, and London Hero are very handsome rounds, and Schoolmaster is one of the best of the older ones. Satisfaction produces very handsome flattish tubers, and when not large they come in well with rounds, but if large tubers are selected, then, as a rule, they are too long. It is not difficult to find a dozen that leave no room for doubt but that they are first-class rounds and all white. Then there are some really good coloured rounds of undoubted form. There are no better reds than Reading Russet and King of the Russets; no better purples than The Dean and Purple Perfection; and no better or handsomer mottled varieties than Conference, white, blotched carmine, and Lord Tennyson, white, blotched purple.—A. D.

CLUBBING IN CABBAGES.

IN THE GARDEN (October 15) "A. K." inquires as to the cause of his Cabbages and Cauliflowers being clubbed. An answer is given under the initials "G. W.," who states that the cause of clubbing is the Cabbage fly (*Anthomyia brassicæ*). Now this insect has much to answer for as regards injury to plants of the nature of Cabbages, as its grubs are very destructive to their roots, but they are not the cause of clubbing. I daresay that "G. W." may say that he always finds these grubs at the roots when they are clubbed, but that is merely accidental, so to speak, for the real cause is one of the slime fungi, which rejoices in the scientific name of *Plasmodiophora brassicæ*. The life history of this fungus is a very curious one. The spores of this fungus, which have lain quiescent during the winter, in the spring swell slightly, and their contents (small masses of gelatinous substance) escape through a hole at one side. These little masses are very minute, and can only be seen under a strong microscope; they have the power of being able to move about in damp earth. If in so doing they meet with the rootlet of any plant belonging to the natural order Crucifere they make their way into it, and by their growth cause an unnatural distention of the cells, and in course of time the root assumes the well-known form of club-root. These enlarged cells are filled with the watery gelatinous substance of the fungus. Later on some of these cells become filled with spores, and when the root decays these are set free, and when circumstances are favourable the cycle of life is begun again. These spores are, however, capable of retaining their vitality for two and even three years, so it is easily seen that one of the best means of combating this pest is by a proper rotation of crops, or, at any rate, no plants of the nature of Cabbages, Cauliflowers, or Radishes should be grown for at least two years on the ground that has borne an infested crop. It is also very essential to clear away and burn every vestige of the plants that have suffered,



Flame Flowers at St. James's, West Malvern. From a photograph sent by Mr. A. Dean. (See p. 367.)

winter for dusting amongst Cauliflowers and Lettuce plants in frames in damp or foggy weather, and in spring as a dressing for Peas when attacked by sparrows. Many plants also enjoy a percentage of wood ashes varied with the potting material. Carrot beds that are attacked by the grub (and its presence is soon detected by the drooping foliage) may be cleared by putting half a bushel each of lime and soot into 100 gallons of water, allowing it to settle, and then watering with the clear water.—NORWICH.

Fine crops of Onions.—From a foot to 15 inches is the distance commonly allowed between the rows of spring-sown Onions, but in wet, sunless seasons the growth is often very strong and sappy and the bulbs ripen indifferently. Some gardeners also think that by leaving the plants thickly, well-matured, though small bulbs are secured, but this depends very much on the season. Nowhere have I seen Onions grown better than at Gunton, Mr. Allan having a select strain

tied up when in a wet condition; therefore the afternoon of a fine dry day should if possible be chosen for the work. One often sees the ties too low down instead of as near the top of the plant as possible; consequently, though probably dry when tied up, rain-water finds its way into the centres, with the result that when cut many of the hearts are found to be quite useless. Another bad practice is that of tying up too many at one time, as, of course, the longer they are closed the more apt are the centres to go in showery weather. After a sharp winter when autumn-planted stock is none too plentiful these simple precautions are all the more necessary.—C.

Scarcity of vegetables.—It is not often we hear of abundance and scarcity of vegetables in one season. Last May I saw some nice young Cabbages which would not pay to send into the town near by, accordingly a portion of the plot was destroyed, the land being sown to Carrots. The other portion was allowed to remain and cut

and not to leave bits of old stumps, roots, &c., to rot in the ground, as is so often done. A dressing of lime (one ton per acre) is much recommended. Gas-lime is not, as it contains sulphur, which is said to be beneficial to the fungus. Farmyard manure should not be used unless it is quite certain that the cattle that produce it have not fed on Turnips or other plants that have been attacked by this fungus, as the spores will pass unharmed through their bodies. Gardeners after working on soil that is infested should be careful to scrape their boots before going on to other ground, or they may easily infect it. G. S. S.

Pea The Michaelmas.—This new Pea will I feel sure become a standard variety when better known. Last year I found it one of the best for October gatherings. This variety is free from mildew, resists drought well, and for so late in the year the crop is very heavy and the quality excellent. The growth is bushy, and, though a 2½ feet variety, the produce on so dwarf a haulm is wonderful, the pods being produced close to the soil.—G. W.

Pea Autocrat in October.—For some years I have relied upon Autocrat for the latest supplies, and, though a 4-foot variety, it is much branched. I only give 3-foot stakes as room is a consideration, and by pinching the points of the plants I get a much better set closer to the soil. In colour this variety is not unlike Ne Plus Ultra; in fact, it may well be classed as a dwarf Ne Plus Ultra, its dwarfness making it more valuable. It is of robust habit, and one of the best kinds to resist mildew I have grown. In my opinion it is one of the best and most profitable autumn Peas anyone can grow, as there can be no question as regards its quality. It crops well, and is a continuous bearer; a great advantage. I have had good pods from the middle of September till well into October in fine weather.—S. M.

—Some few weeks back I received a note from your office respecting the best time to sow late Peas. I have enclosed a few Autocrat for your inspection. They were sown on July 4, and I commenced picking on September 27. I have a splendid lot now (October 11), and will keep on for some time if weather permits. Sutton's Defiance, May Queen, and Stratagem, sown at the same date, did not do at all well.—A. BATEMAN, *Briarworth Hall, near Northampton.*

* * With the above note was sent a lot of excellent Peas, the pods being large, beautifully green, and filled with Peas of excellent flavour.—ED.

Tomatoes and Cucumbers in Orange boxes.—As a rule both Cucumbers and Tomatoes are grown in less bulk of compost than formerly, growers having found that, confined to a limited root run, the plants make firmer and more fruitful growth, last longer in a bearing state, and are less liable to disease. Sourness of the soil is likewise avoided, as the roots permeate it thoroughly and moderate top-dressings and assistance by fertilisers can easily be given when the plants most need it. A grower of my acquaintance in Northamptonshire plants all his Cucumbers and Tomatoes in Orange boxes, and it is astonishing what fine crops of both are secured. The roots are merely covered at first, an inch more soil being given in due time—this by the way is not of a rich character, very little better than good garden soil, yet growth is sufficiently strong until the crop is set, when feeding once in ten days commences, the manure being sprinkled over the surface and watered in. Of Tomatoes he has this year grown Chemin Rouge, Prizetaker and Masterpiece, all profitable varieties, and Up-to-Date. The last has given such satisfaction that a double quantity of plants will be grown next season. The grower in question speaks of it as a very free setter and good in every respect.—C.

Celery.—Rain has at last come in sufficient quantity to moisten the soil to a depth of 6 inches or so, and those who have refrained till now from moulding up their main crop Celery will have cause to congratulate themselves, as all that

moulded during the dry weather will be unsatisfactory. During the past few years a change has taken place in the matter of earthing-up Celery, for many of the best growers do not now hurry the work out of hand during the early part of the season, but allow their plants to make most of their growth before moulding, except for the little soil requisite to hold the leaves together in an upright position; consequently the growth made is hardy, and there is no fear of its being harmed during the winter by either frost or wet to anything like the extent which is common with that moulded up months before it is wanted or before winter sets in. Many growers, however, stick to the old ways and will have suffered more than ordinarily this year. There are so many things in favour of late moulding that one wonders how they can be overlooked. A few of the strongest are that the plants may be artificially watered all through the summer if necessary without difficulty; the blanching is better when done by soil in a damp state, and this is not possible where it is applied early, as it soon dries in a spell of dry weather and cannot again be moistened without spoiling the hearts; pithy growth may be prevented; the plants are more hardy, and, last of all, the hearts are not so liable to injury from worms or from the tiny black slugs which are great enemies to Celery after it is moulded up. I see that the Celery maggot has been very prevalent in some places; here it is no worse than usual, but it is working later in the year, and I find that the latest planted lot is attacked, a thing that seldom happens.—J. C. TALLACK.

SUCCESSIONAL BROCCOLI.

At one time gardeners found it difficult to make the latest spring Broccoli shake hands with the earliest Cauliflowers, even when the latter were planted in hand-lights in autumn and brought on under the most favourable conditions. Since the introduction, however, of such late Broccolis as Model and Late Queen the task has been rendered comparatively easy, for gardeners are often able to cut nice heads of such Cauliflowers as Early Snowball while as yet plenty of good Broccoli remains on the ground. It requires a little time for a gardener on going to a fresh district to find out the correct dates for sowing the seed of the various kinds in order to secure a regular succession, but when once this point has been mastered there is very little difficulty, provided the winter is not too severe. Few gardeners now-a-days care to plant Broccoli on freshly manured ground, although plants so treated this season will certainly have had the advantage. Plots from which early Peas, Tripoli Onions, or early Potatoes have been cleared are the best, no other preparation being necessary than merely putting the Dutch hoe through and removing any large weeds with a coarse rake. A stocky growth from the very first is necessary, not only to enable the plants to stand the frost better, but also for making laying, should it be deemed necessary during winter, more easy. The young plants should be well thinned out in the seed-beds, and thus reap the benefit of a maximum amount of fresh air.

In enumerating succession varieties, I would remark that a mistake is often made by seedsmen in cataloguing Walcheren as a Broccoli, whereas it is purely a Cauliflower, which, although most useful during October and the early part of November, is easily discoloured and spoilt by a few degrees of frost unless well protected by bending down the leaves over the heads. It is questionable if ever there will be a better variety for opening the Broccoli season than Self-protecting Autumn. It is fairly hardy, and the inside leaves folding closely over the pure white heads shield them from inclement weather. By a little arrangement this

variety can be had well into December, and if the latest to turn in are lifted and laid in in soil in a cool shed they will last in good condition for several weeks. One of the very best varieties for following on is Backhouse's Winter White. I prefer it to Snow's, as it is now difficult to obtain the latter true. One used to be able to time it to a few days, but the present-day strains often deceive, sometimes not turning in till January or later, and then very irregularly. Backhouse's is hardy, dwarf in habit, the heads being exceptionally compact and white. Where plenty of ground is at command, Penzance will also be found a good all round reliable sort. Knight's Protecting, one of the oldest and still most reliable Broccolis, comes into use at a time of year often very trying to this crop. Leamington, another old favourite, and Cooling's Matchless, a hardy superb variety, are useful for February supplies. I grew both this and Backhouse's in the midlands, and can recommend them. Veitch's Spring Broccoli is a capital variety that, in anything like a reasonable season, will not disappoint, a moderate number of plants keeping up a succession of heads of good quality for some time. Model, Late Queen, raised by the late Mr. Gilbert, and Webb's May Queen form a trio not easily surpassed for latest supplies. J. CRAWFORD.

The Queen Onion.—I fear those who grow Ailsa Craig or Record, several pounds in weight, will not have a great liking for the very small Queen, but few varieties are more useful. It is liked more than any other for pickling, and, as it is such a quick grower, one can easily have two crops in a season. Owing to its delicate flavour it is much liked for summer salads. I use it for cooking at all times of the year. I sow in February, and again early in June, bulbs from the latter sowing ripening by the early autumn. This variety has a clear silver skin; indeed, at times it is grown under the name of Silver Skin. I am now transplanting early autumn-sown plants to give bulbs next April.—G. W. S.

Cabbage Beaconsfield.—This is much later than Ellam's Dwarf Early, but a very good variety to follow it. It is a dwarf grower having a conical heart, very solid, and just the size liked in a private garden. It may well be termed a late Ellam's, and as such it will be very useful. We have room for a good maincrop variety, the early kinds soon splitting. The one named keeps solid and good a much longer time. I saw this variety when on trial in the Royal Horticultural Society's gardens, Chiswick, and determined to grow it largely. On June 14 this year it received an award at the meeting at Westminster for its fine shape and good quality. I do not think this Cabbage is yet in commerce, but it will certainly find favour when introduced.—G. W.

Spinach failing.—One often grumbles when we get a dripping late summer, but it has its advantages, as with great heat and drought combined it is a difficult matter to grow Spinach and other autumn vegetables to perfection. I never had such a poor crop of Spinach as I have at the present time. Doubtless others with a heavier soil are in a better position, but a light soil on gravel does not suit autumn Spinach in a dry season. No matter how well treated as regards food and water, the plants have up to the middle of October either remained stationary or become smaller. I got a catch-crop by sowing in pots in a cold frame kept shaded. This was planted out in the frame, the sashes being left off at night. The plants in the open may now be assisted by soot dressings, and the crop hastened by using spare hand-glasses over the strongest plants or placing frames over them.—S. H. B.

Potato Syon House Prolific.—I am pleased to see the note on this Potato by "A. W." in THE GARDEN (p. 303). A Potato that does so well in

diverse soils is an acquisition, as I note Mr. Tallack, at p. 303, writes most favourably of it, remarking that it is a splendid cropper and the quality all that can be desired. In these days it is not an easy matter to grow one variety that will do well in districts so wide apart. This seems at home in any soil, as Mr. H. C. Prinsep (p. 304) writes that Syon House Prolific has done wonderfully well this season, the tubers being large, even in size, and well flavoured. I have just lifted a very heavy crop of the above variety, and though, doubtless owing to the drought, the tubers are somewhat smaller than last year, they are quite large enough, and considering the season the yield is a very heavy one. I would strongly advise growing this variety in the open field.—F. R.

Celeries.—The very fine collection of a dozen diversely named Celeries staged the other day at the Drill Hall from Aldenham House Gardens helped to show how very little is the difference in size, earliness, or quality when culture is identical. Out of the entire number it was difficult to say that one was better than another. This fact should make writers chary of extolling one variety over another. After all, how small are the distinctions in Celeries, and how really few *bond fide* varieties are there. Tastes may differ as to colour, but with regard to quality there is, after all, little to choose. Given really good culture and exceeding care in blanching, he would be a clever man who could say of the dozen named sorts exhibited that one was superior to the others.—A. D.

HEELING IN OF BROCCOLI.

In many instances the breadths of Broccoli in gardens will no doubt hardly pay for the trouble of heeling in this season, in consequence of their having made such poor growth owing to the protracted drought of the past summer and autumn. The welcome rains have come too late, it is feared, to benefit them to any great extent unless it should be the very late varieties. There are, however, cases where the locality is naturally cool, also where the subsoil is a retentive one, in which good breadths are to be seen. Such is the case here, and although we have suffered extensively from the effects of the dry weather in a great many respects, the Broccoli crops certainly must be excepted. These have done well from the start, and from appearance a casual observer would run away with the idea that we have had plenty of rain, whereas the reverse has been the case. The piece of ground they occupy is in the lowest part of the garden, and slopes gently towards the north. The soil itself is rather a stiff loam, resting on the red clay which is found in such abundance in the adjoining fertile valley of the Frome, and beneath this is the old red sandstone. Could the drought have been foreseen, a more favourable spot could hardly have been selected for the growing of the crop. The top spit and the subsoil being heavy, it retained moisture for a great length of time and kept cool. This enabled the plants to grow away freely, and when they had developed a sufficiency of foliage the ground was shaded and thus prevented from becoming unduly dry. In some few favoured localities, protection either by heeling in or by placing straw, bracken, or dry leaves—preferably either of the two former—amongst the stems, is unnecessary. In others protection is absolutely necessary, that is if it is wished to save the plants from being injured should the winter prove at all severe. In such cases it is always best to be prepared beforehand, as we cannot foresee what kind of weather may be in store for us. The stems of Broccoli, as is so well known, are very susceptible to injury, and the most ready and efficient method of protecting them is by the process called heeling in. Owing to the climate here being naturally moist, I find it best to always heel in winter and spring Broccoli, otherwise a very large percentage would be destroyed in severe winters. Of course, where but small breadths are grown, the materials men-

tioned above may be used instead if the labour attending heeling in is objected to, but when the plants run into hundreds the latter is the more economical and satisfactory way of dealing with them. The time for doing this is now close at hand, as I think it best done early in the month of November, as the plants then have time to recover from the operation before the winter sets in. The great thing in performing the work is to open out a good trench on the north side of the break, distant a foot or 15 inches from the outside row and about the same in depth. When this is ready the plants should be tilted or heeled over into it by driving a spade down behind each, which if carefully done will ensure a good ball of soil adhering to the roots. A good layer of soil should then be placed on top of the ball and all trodden quite firm again. The stems should also be well covered with soil up to the lowermost leaves. This should be followed up row by row until the work is completed. If care is taken when heeling in the plants to see that plenty of soil remains attached to the roots they will not flag, or not to any appreciable extent, and in the course of a few weeks the leaves and remainder of the stems above ground will assume a natural position. A. W.

BOOKS.

ALPINE PLANTS IN LOWLAND GARDENS.*

THE author of this excellent work is now in charge of the botanic gardens in Zurich (Switzerland), and was formerly in the botanic gardens at Berlin, where he formed several rock gardens, and had under his care the whole of the extensive collection of mountain plants grown in these gardens. The book consists of 257 pages, and is illustrated by twenty-two large engravings and four excellent plates representing various rock gardens, including those at Abbotsbury, Newton Abbot. The object of the book is not so much a description of individual plants as a handbook on the requirements of alpine plants, the most practical methods of cultivation, &c.

The first four chapters deal with alpine plants in their native home, their geographical distribution, the influence of climate and temperature, the conditions under which alpine plants flourish, their botanical structure, &c., &c. The next six chapters are devoted to alpine plants in our gardens. Here detailed instructions are given for the culture of alpine plants under various conditions. The author enumerates the best methods for ensuring the necessary amount of humidity of soil and atmosphere, also the influence of light, the protection in winter, cultivation in pots, propagation, and the enemies of alpine plants. Here also most useful hints are given on collecting plants and their treatment on arriving in their new home to ensure acclimatisation. The third section of the book contains two well-written chapters on the construction of rockwork and on the planting of alpine gardens. This portion is particularly well illustrated, showing the wrong way as well as the right way of placing the stones, the construction of crevices with due regard to the requirements of the plants as well as the grouping for picturesque effect. Due consideration has also been given to water in connection with rocks, and much useful information is supplied concerning the treatment of the margins of ponds and streams.

The actual work of planting under various conditions is well described, and the chapter treating on this subject will be a boon to gardeners and amateurs alike, as throughout it is apparent that the author writes not from hearsay, but from practical experience. Very interesting is the fourth section of this work, which contains obser-

vations on alpine plants when growing under the altered conditions of lowlands.

The longest and, perhaps, most important section is a list of all the best alpine and sub-alpine in cultivation. By means of short abbreviations after each name the list shows clearly whether the plant in question requires a sunny or shady position, whether it flourishes best in stony soil or in soil rich in humus, and other cultural notes, together with the native home. It must be regretted, however, that, excellent as this list is, it contains not a single descriptive note. We have, of course, many books dealing with descriptions of alpine plants, and it was, perhaps, this circumstance which caused the author to omit descriptions altogether, but I cannot help thinking that a few more abbreviated notes after each name, giving approximately the height, the time of flowering, and the colour, would have made the book still more valuable, and would have been an immense help to the amateur.

At the end of the book most useful combinations of plants are recommended for various purposes. But the chapter which will be hailed with the most genuine delight is the last one, which in a clear and explicit manner deals with plants erroneously known by other names, or which are easily mistaken for one another. The author gives in this chapter such a lucid explanation of the characteristic distinctions, that he well deserves the thanks of his readers for clearing up a great deal of misconception in the nomenclature of alpine plants.

Elmside, Exeter.

F. W. MEYER.

ROSE GARDEN.

NEW ROSES OF 1897-98.

Now that the planting season is with us again, a few notes upon the new Roses that have proved good here, or been seen elsewhere in pleasing form, may not be out of place. We have such a large number sent out each season that one is puzzled which to procure. The following, so far as I have grown them, are, I think, the best. Under those for 1897 we have

COUNTESS OF CALEDON, one of the many grand additions to our Hybrid Teas, a class that I feel certain will become more popular. This is a very large and well-formed Rose, the flowers standing well after being cut. My best flowers have been upon standards. It is quite distinct and of a beautiful rich carmine shade.

DUCHESS MARIE OF RATIBOR is a Tea with strong and upright growth. The shape is good and is retained for a longer time than in most Roses. The colour is creamy yellow, with a warm crimson-yellow centre—a very soft and pleasing shade and a welcome addition to the more delicately shaded Teas. It is a cross between Kaiserin A. Victoria and Dr. Grill.

EMILIE GONIN is another of M. Guillot's new Teas. It is a good grower, large, full, and one of the prettiest shaded Roses we have. The flowers are white, tinted orange-yellow, the large petals bordered with rosy carmine.

EMANUEL GEIBEL is a decided advance upon Mme. Falcot in depth of colour and substance. It was a sport from the latter, and is equally free and pointed in bud.

EMPERESS A. OF RUSSIA gives us a colour found in no other Rose, a tawny copper, lake and orange being intermixed. It lasts exceptionally well and is very free-flowering. This has been good late in the season and under glass.

FRAU GEHEIMRAT VON BOCH is of a stout, bushy habit. The bud is long, opening into a full flower. It is one of the most promising new Teas of the year. The colour is a creamy gold, but occasionally flushed with bright carmine on the back of its outer petals.

FERDINAND JAMIN has been good and is sure to take a prominent place, the flowers large and globular; rosy carmine, shaded with deep salmon.

* Die Alpenpflanzen in der Gartencultur der Tiefländer: ein Leitfaden für Gärtner und Gartenfreunde von Erich Wöcke. Berlin, 1898. Published by Gustav Schmidt (formerly Robert Oppenheim), Berlin, S.W., 46.

GRAND DUCHESSE VICTORIA MELITA reminds one of Kaiserin Augusta Victoria, but has a distinct shade of golden yellow in the centre. It appears to be a stronger grower than Kaiserin Augusta Victoria, equally free blooming, opens well, and is in flower throughout the whole season, as might well be expected from its parentage. It is a cross between Safrano and Caroline Testout.

MME. CADEAU-RAMEY gives us yet another delicately-coloured Tea. This is rosy flesh, with yellow at base of petals and bordered with rosy carmine.

MME. LOUIS GRAVIER is really distinct and good. The growth, also size and substance of the flower, are first-rate. This is bordered with carmine, the ground colour a light salmon, tinted with orange-yellow.

MRS. FRANK CANT is the result of crossing Mme. Gabriel Luizet and Baroness Rothschild, two well-known pink Hybrid Perpetuals. The colour is a clear pink, edged with silvery white. Here we get the more perpetual-flowering properties of Baroness Rothschild and the exquisite perfume of Mme. Gabriel Luizet.

MRS. RUMSEY is a sport from Mrs. George Dickson. This is deeper in colour, a grand autumnal, and mildew-proof.

OSKAR CORDEL resembles one of its parents, Merveille de Lyon, in growth and foliage, but is a very rich bright carmine and sweetly scented.

REV. ALAN CHEALES is a peculiar Peony-shaped flower, pure lake on the inner side of petals and a silvery white upon the back.

ROBERT DUNCAN has large shell-shaped petals and is of good form. A bright rosy lake may best describe this.

SOUVENIR DE JEANNE CABAUD is a copper-coloured Tea, with apricot-yellow and carmine shaded centre. It is a good grower and is sure to be an excellent garden Rose.

In 1898 we have nine varieties deserving of special mention. Of course, it is easy to miss several sterling varieties when dealing with those only seen during the present year; but some of these have been before us at exhibitions of new Roses during 1896-97.

ADINE is robust and a very free bloomer. The form and substance of blossom are good. It varies in colour, but is always pleasing; colour a deep orange, shading to rose and gold; frequently a mixture of yellow, white, and bright carmine.

ARDS ROVER will be a valuable pillar Rose, being a deep crimson, heavily shaded with maroon. This appears to be a very free bloomer.

BERYL has pleased me very much. It is free, exceptionally sweet-scented, buds long, not very full, but most showy. The colour is a deep golden-yellow, a shade we do not find in any other Rose.

GRAND DUKE ERNEST LUDWIG is the result of crossing Maréchal Niel and General Jacqueminot, and gives us what has so long been wished for, viz., a red Maréchal Niel. It is just the same in growth as the latter, with a little darker foliage, and has the colour of General Jacqueminot, with the size and substance of Maréchal Niel. In

KILLARNEY the buds are long, petals large, and the whole flower well built. A clear flesh-white, suffused with pale pink and salmon, is the colour.

L'INNOCENCE will take a foremost position among our pure whites. It is of vigorous and upright growth, the flowers large and globular, and borne upon stiff stems.

PURITY will probably be our best early white pillar Rose. It is of perfect form, of medium size, and lasts well both on and off the plant. It is of vigorous growth, and produces flowers from almost every eye upon the previous season's shoots.

SOUVENIR DE J. B. GUILLOT varies from a deep nasturtium yellow and red to crimson and bright copper.

WHITE MAMAN COCHET is a pure white sport from Maman Cochet, one of our best and most reliable Teas. RIDGEWOOD.
Sussex.

Rosa macrantha.—This is probably the most beautiful of all the light-coloured single Roses. Many of the blossoms measure as much as 4 inches in diameter and are of the most delicate blush shade. The golden stamens are also most conspicuous and numerous. Macrantha and Bardou Job are good companions and of very similar habit. The latter is well known as being the best dark-coloured single Rose. It is advisable to grow these single Roses on pillars, then their full beauty is seen.

Rose Fanny Stolwerck (Tea-scented).—This Rose has no pretensions whatever to form. It is as rough and irregular as it is possible for a Rose to be, but its colour is superb. This may perhaps be best described as old gold, heavily shaded with rosy salmon and peach. It reminds one of the old favourite, Ophirie, but the blossoms are larger and there is more of the salmon tint mingled with the bronze. It should make a very telling climbing Rose if time be allowed for the plant's full development into a good specimen. Its growth is very vigorous.

Rose Dr. Rouges (Tea-scented).—This is another very attractive climbing Rose of the type of l'Idéal. The buds are almost identical in form, but they differ much in colour, being quite a rich rosy red. In the expanded flowers the colour changes to rosy pink, with a pronounced shading of bronzy yellow. A very distinct feature of this Rose is the form of the outer petals in the expanded flowers. These are of the pointed shape of the Cactus Dahlias. As this variety produces very large corymbs of blossom, this peculiarity of petal is rendered very effective.—P.

Rose Marquise Litta.—This is one of the richest coloured Hybrid Teas. It is well known that many Roses have a richer colour in autumn than they have in the summer, and in this case the beautiful vermilion shade that appears only in the centre of the first blossoms entirely suffuses those that are now produced. This Rose has splendid outer petals. Where a mass of colour is desired this beautiful Hybrid Tea would be the one to plant. There is not such a gorgeous blaze as is produced by masses of Cramoisi Supérieur, Marquise de Salisbury, and others of that type, but we have in Marquise Litta a variety that will be found useful for garden decoration and at the same time be available for cutting.

Rose Gloire des Rosomanes.—The introduction of this was of great benefit to rosarians, for it is the reputed parent of General Jacqueminot, and everyone knows this to be the best and sweetest of all red Roses. There may be some difference of opinion, however, about the General's parentage, but it is very clear that Gloire de Margottin, Bardou Job, Eugène Appert, and Géant des Batailles can claim relationship with Gloire des Rosomanes. One would have thought that even better Roses than these would ere now have resulted from this gorgeous variety. But perhaps, now that Rose growers are alive to the benefits derivable from cross-fertilisation, we shall ere long see a brilliant race arise with double flowers.—P.

The de la Grifferaie stock as a cultivated Rose.—It may not be generally known that this rampant multiflora Rose, so extensively used as a stock for climbing Tea Roses, makes an excellent decorative variety for shrubbery borders, the wild garden, railway embankments, or anywhere where a hardy, vigorous-growing kind is desired. Crimson Rambler is undoubtedly a near relative of this Rose, and they resemble each other in growth and flowering in a very marked degree. Instead, however, of the bright grass-green foliage of the popular Rambler, the de la Grifferaie has dull sage-green leaves of a woolly appearance. The huge corymbs of blossom are indeed most effective. In colour the flowers vary from deep rose to blush-pink, and it is a very peculiar and

interesting sight to see the two shades of colour blended in one corymb. The individual flowers are very small and double.

Nurserymen and the Manetti stock.—We notice this is now offered by the 20,000 to the trade, which is a sad prospect for those who deal with them. Many of the choicest Roses, if worked on the Manetti stock, hardly grow at all after the first year, but often go back, and it is one of the causes of the bad state of Rose gardens in many places. Why do people whose best interest it should be to sell only things that are satisfactory to their customers use such a stock as this? It is supposed to give a good bloom for one year in forcing, and no doubt also gives a large bloom for cutting for shows in some instances. The worst of it is that the customer cannot tell that the things are worked in this way; they are worked so low. All, therefore, who wish their Roses to live and thrive should beg nurserymen never to send them on the Manetti stock, at least so far as the more beautiful Tea Roses are concerned.—*Field.*

Rose Valentine Altermann (Tea-scented).—We have none too many white climbing Roses that are autumn flowering; therefore every addition to their number is appreciated. There are the old favourite Aimée Vibert, in many respects unsurpassed, and also Mme. Alfred Carrière, a rampant flesh-tinted, sweet-scented white variety. Lamarque and Climbing Niphetos are lovely, but, unfortunately, very tender. In the Rose under notice we appear to have a good novelty. The flowers are very double, almost as much so as in the old dwarf variety, Marie Guillot. They are of medium size, quite globular, and if not of the snowy purity of Niphetos, yet they are of a pleasing whiteness, with just a faint tinge of carmine on the outer petals. It is said to be a cross between Mathilde Lenaerts and Sombreuil. In the smooth growths and foliage it resembles the former, and the carmine tinge of the outer petals is the same colour as in this Rose, whilst the influence of the pollen parent is very evident in the predominant white colour.

GARDEN FLORA.

PLATE 1195.

ANNUAL CENTAUREAS.

(WITH A COLOURED PLATE.*)

THANKS to the praiseworthy fashion of late years of using as far as possible only long-stemmed flowers for bouquets, the different species of Centaureas, annual as well as perennial, have become general favourites in all countries. Indeed, where cut flowers are in demand there are no better and more valuable blossoms to be found amongst the large family of composites than the five species and varieties of Sweet Sultan represented on the coloured plate. The finest and noblest of all is Centaurea Margaritæ, introduced by an Italian firm in 1891. It grows to a height of 1½ feet to 2 feet and produces an abundance of bloom. The flowers are large, pure white, resembling in their form the well-known yellow Sweet Sultan. They are beautifully fringed and very sweetly scented. When cut they remain in full beauty for more than a week. C. odorata is the counterpart of C. Margaritæ except in the purple colour, and is also very fragrant. C. suaveolens with its charming citron-yellow flowers is a general favourite for cutting, and at the same time a lovely annual for borders. C. moschata alba and C. moschata rubra are more robust and taller in growth than the three foregoing. They attain

* Drawn for THE GARDEN by Rose Pinckert in Messrs. Haage and Schmidt's nursery at Erfurt. Lithographed and printed by J. L. Goffart.



a height of 2½ feet to 3½ feet and are perfectly hardy. Their flowers are not quite so graceful, the involucre being not so well developed as those of the above-mentioned species.

The culture of Sweet Sultans is very easy. Seed may either be sown in the open ground from the end of March to May where the plants are to remain, simply thinning them out to a distance of 1½ feet to 2 feet each way, or it may be sown in a cool frame as early as possible from the middle of February to April. The seedlings must be transplanted before they produce tap-roots, from April to May. With *C. Margaritæ* and *C. odorata* it is essential to choose the driest and sunniest place in the garden, as they are very apt to damp off in wet seasons. HAYGE AND SCHMIDT.

Excerpt.

THE WEEK'S WORK.

HARDY FRUIT.

STRAWBERRIES IN POTS.—The growth of these has now practically ceased, but, all the same, do not leave the plants to chance. Mine have just

been looked through, the late runners having been taken off and the surface soil stirred a little where it was weedy or green. For the present I shall let the plants remain where they are. So far the rains have not been too excessive, nor will there be any fear of frost to injure or check the roots for at least a fortnight or three weeks. By that time it will be advisable to arrange them in their winter quarters. Three ways at least are open for doing this: they may be stored in cold frames, stacked close together in ashes on the flat, or be piled on their sides in lines or against walls. Personally I prefer the cold frames, whether they be covered with glass or mats not being of any material moment. Where this accommodation is impracticable, then the next best thing is to store the first early kinds on their sides, the later ones or batches being, if need be, left on the flat. It may be asked why any difference is thus made. The reason is that the earliest lot should not get excessively wet or be chilled by early falls of snow. In every case look well to the drainage and see that the bottoms of the pots are quite free. The system of storing, whether it be on the sides or on the flat, depends a deal upon the locality and local surroundings. If exposed, then give the plants some shelter, against walls if possible; if sheltered, storing on the flat will suffice. But if in addition the effects of fogs from our large towns, manufacturing or otherwise, are feared, then the protection of pits is at once the best choice. I do not know what the experience of other growers may have been this year, but in my case every variety except Royal Sovereign has done as well as one could possibly desire, making stout, dark green leathery foliage. Royal Sovereign, on the other hand, has been troubled with mildew, whilst the growth has not been all that one could desire. The stock of this variety was from three sources (my own and two others), but in each case the growth is not of the best. Having been hindered from preparing the ground and planting the alpine Strawberry plants the middle of last month, as alluded to early in October, I

have been forced to postpone it, but ere these lines are in print it will have been finished. I do not apprehend the slightest harm by this later planting, the alpine Strawberry being extremely hardy. In fact, if the dry weather, which held on so long in October, be taken into consideration, it only seems reasonable to think it was work very well deferred. Hints have been given as to the soil for these and its preparation. I now only add what I have actually done this past week. The ground chosen was that from which late Peas and Carnations had been taken. This was well manured with old Mushroom beds and double dug, a good dressing of soot being given; the same of lime will be added a week or two later upon the surface as a deterrent to slugs and worms. The plants are firmly planted, being lifted with large balls and afterwards watered, let the weather be what it may. My usual practice is to plant at 18 inches apart each way, but for greater convenience in picking the fruits and for weeding and stirring the soil, top-dressing, &c., I have this year missed out every fourth row; the plants will thus be in beds with an alley between them. If anyone happens to be short of seedling plants, the runners from the seedlings will be the next best choice. Otherwise if these be not wanted, they should all be cut off and cast



Centaurea moschata.

aside. The latest fruits of the alpine were this year gathered in the open on October 29; last year it was November 1 or thereabouts. Of the new St. Joseph it appears that later fruits will be obtainable in the open when the weather is mild. The best place for this variety is a south border.

FRUIT TREE PLANTING AND REARRANGING.—After the rains we have had this work should be proceeding apace so as to lose no time in completing it whilst the weather is open and favourable. Trees received from the nurseries, if packed in moist material, need not be unpacked before the positions chosen for them are quite ready, so as not to dry up the fibrous roots. If otherwise received and the roots dry, put them into wet litter at once or well moistened soil. In every case look to the roots and make clean cuts of all those needing it. Do this so that the wound faces downwards—not upwards nor sideways. The young rootlets then will have a better chance of striking away in the right direction. Do not plant deeply—no deeper, as a rule, than the trees themselves indicate. Make the soil firm around them, and if the manure be at hand, mulch them at once, that from the farmyard being the first choice. In giving first attention to newly-received

trees, do not lose sight of those which require attention at home—such, for instance, as those which have possibly been planted too closely together, to leave which in that condition is certainly not advisable. Take particular notice of any that give indications of complete exhaustion as well as those that are not fruitful. If a piece of wall can be spared for growing on young trained trees to a larger size, it is well to arrange for such, so that they may when taking their places later on be more nearly the size of the rest and not so conspicuous. Do not leave any available wall space unoccupied. Whatever the aspect may be, it may be profitably taken up. There is no reasonable excuse for neglecting this now that cordons can be had so cheaply.

VARIETIES TO PLANT.—To name such fully would no doubt be misleading, for what will thrive well in some soils and situations will not always do so in others. I will, however, offer a few names of such as I find in my own case decided acquisitions, some of which will no doubt succeed, if not all, whilst some possibly are already being grown. Of Apples, note should be made of Newton Wonder, which bids fair to be a general favourite. Bramley's Seedling is better known; this also is a hardy variety. Rivers' Codlin when better known will be more sought after, being a valuable autumn Apple. Allington Pippin promises well. With me it is on the Paradise stock and crops heavily. Belle de Boskoop will be another acquisition; it is hardy, with the quality and appearance of Reinette du Canada. As an early kind St. Edmund's Pippin deserves notice. Of Pears I have noted that Marguerite Marillat is advancing in favour. It is a handsome fruit and of excellent quality, season early in October. Beurré de Fouqueray has pleased me very much this season. It is a sweet, juicy Pear. The best results have been from a double grafted tree—i.e., an old tree re-grafted. To mention Thompson's would seem to be superfluous, yet it is not any too well known, nor is Conference, which is a rich, buttery Pear. My best fruits of these varieties are from south walls. Of Cherries note should be made of Guigne d'Annonay, which with me upon a south wall is the earliest dessert variety, although closely followed by Early Rivers, which is a finer fruit and of better quality. Bigarreau de Schreken ripens about the same time as the last-named; it is of the largest size, remarkably fine in texture, and a splendid variety for travelling. Of late Cherries note should be taken of Géant de Hedelfinger and Tradescant's Late Heart, both of which are worthy of a trial for August use, if not later; these should have east or north aspects. Of the Duke Cherries, Empress Eugénie should be noted; it is earlier and a finer fruit than the old May Duke. Of Peaches much cannot be added from point of earliness; both Alexander and Waterloo are frequently disappointing. I give the first place still to Hale's Early, which is invariably good and of fine colour; for a later kind, Dr. Hogg claims notice. It is a hardy variety, setting very freely. Goshawk is another splendid Peach, and so is Dymond, which follows it in ripening. Two of the finest late Peaches are the Nectarine Peach and Osprey, which, if they do not always properly ripen, are invaluable for stewing and compôtes. Of Nectarines, the earliest for outside culture is Early Rivers, and for growing in pots or in restricted borders, Cardinal is *par excellence* the first choice; note should also be taken of Dryden, which ripens in August, and Spenser, one of the finest of Nectarines, ripening the middle of September. Of Plums, no new early kind appears to stand out prominently, but where the Early Orleans Plum is a proven favourite, a trial should be made of The Czar, which surpasses it, not being so liable to crack. Of later kinds, both Grand Duke and Monarch are unmistakable acquisitions, and so is Rivers' Late Orange. Ickworth Impératrice, although an old variety, requires a note; it is a high-class late dessert fruit. The Transparent Gage, including the newer forms, viz., Early, Golden, and Late, will do best if

grown in either limited borders or pots, being of such exuberant growth. The foregoing notes as to varieties are made after careful observation and practice, but in no case is it advisable to plant extensively of any variety, new or otherwise, until a trial has first been given, as both soil and situation will have a deal of influence in results.

HORTUS.

KITCHEN GARDEN.

ASPARAGUS BEDS.—Owing to the rainfall Asparagus is later in ripening than usual, but I notice many plants have ripened the seeds. It will be well to cut the growths as soon as possible, as the seedlings if allowed to remain crowd the beds. The old system of allowing the seed to fall, thinking to secure a thick plant, is wrong if fine grass is desired. Another system in Asparagus culture is to manure beds at the time of clearing away the top-growth. This is not needed, and though it is often advised for light soils, I would prefer to leave the beds fully exposed. If extra covering is needed, far better give new soil in the way of a surface-dressing of loam and such aids as burnt refuse, wood ashes, and old mortar rubble instead of manures, which keep the roots cold and very wet, causing decay of the lower portion. In heavy land the aids advised above are beneficial, because the lighter soil enables the grass to push through more readily and encourages surface roots. The plants often suffer from excessive wet if the surface roots are exposed. Old plants have a tendency to lift themselves out of the soil, and need occasional surface-dressings of good material, and in heavy land such aids as bone-meal, nitrates, or other approved fertilisers may be added in the spring before growth is active. In no case do I advise animal manures at this season. If food is necessary, one can give it in two or three months' time in a thoroughly decayed condition, and a little fine soil from the alleys spread over the manure will make the beds tidy. Owing to the drought there are a few blanks in the younger beds, and I have planted even at this late period, as now the gaps are easily seen. It is not generally known that planting can be done at most seasons, at least from now till June, and though the spring planting is much the best, at that date there is a lot of work needing attention, and at times it is overlooked. If planted now the roots should be made firm, and a thin mulch of light material placed over them. The alleys of old beds should be hoed and made neat and all weed growth cleared away. If desired, the sides of the beds may be lined out and cut down, but avoid digging or deep forking. In fairly good soil I would advise beds on the flat with no alleys or spaces between, allowing 2 feet to 3 feet between each row of plants.

MAKING NEW ASPARAGUS BEDS.—Now is a good time to make new beds. Of course much depends upon the soil. I would urge the importance of new beds in places where the soil is poor and the growths at all weak. There was at one time a great liking for salt dressings for beds at this season, but these only make matters worse. Salt is better given whilst growth is active. Recently I saw salt advised for mixing with the soil for new beds, but I do not advise it. In suitable soil good Asparagus may be grown at no great cost. Now is a good time to trench and manure the quarters for new beds, as the soil will be much improved by exposure and in better condition to sow or plant in the spring. Those who can plant in the spring will save much time. I sow every spring for this purpose. If seed is sown for permanent beds, the surface soil must be better and in a finer condition.

CAULIFLOWERS.—It is well now to prepare for the spring or earliest crop in the open. I use hand-glasses for the main lot of plants, these being placed on a warm border; sheltered if possible, by a wall or houses. I place nine plants under each glass, and early in March the four corner ones are left, the others being lifted with a trowel and planted out, these forming a succession to those under the glasses. In planting it

will be well to make the soil, as also the plants, firm. The grower for the next few months will have a lot of trouble with various pests. Slugs are most destructive, and it will be well to use soot freely. At times mildew is troublesome, and this should be checked at once. I use dry wood ashes mixed with sulphur. In an earlier note I referred to the importance of potting up a good stock of plants. These should not be left any longer, as it is well to get the roots round the sides of the pots before December. I plunge the pot plants in ashes and cover over to throw off heavy rains. Plants may, if preferred, be pricked out into a cold frame, but they do not plant out so well as from pots, as in hard weather they do not always get the necessary exposure, getting drawn and tender.

POTATOES.—I notice the earlier kinds have a tendency to grow out very badly, and this will necessitate frequent sorting over, keeping the tubers as cool as possible. I am glad to observe there is scarcely any disease. Puritan and Beauty of Hebron are excellent as regards quality this season, a dry, hot summer just suiting these kinds. This shows the necessity of growing them in well-drained soil and not under the drip of trees. I have referred to the importance of keeping all kinds of store Potatoes as cool as possible. In my opinion a clamp is preferable, as the temperature is even and growth not so quickly excited. All clamps should now be made up for the winter. Dryness is essential to good keeping, not that it is necessary to have the tubers dry when building them up, but enough covering to prevent the wet entering the clamp should be employed. Potatoes only just lifted after the heavy rainfall will need more sorting and care than those lifted earlier, as disease will have shown itself. Seed tubers of early kinds will do well stored in shallow boxes in single layers placed endways, the boxes being placed in a cool place with a free circulation of air.

BROCCOLI.—The early varieties, such as the Protecting, Michaelmas White, and Walcheren, are now turning in freely. The first-named is the earliest. Walcheren is very good for November cutting, but needs more protection than the others, as the flower is more exposed. It is a good plan to go over the quarters of the early kinds and draw the upper leaves together. This protects the heads. All later kinds are growing away freely—indeed so much, that I have hesitated to check growth by laying the plants. It will be well not to defer the laying too long, as the growth this autumn being so soft, I fear the plants will suffer badly in severe weather. Should the weather remain open, I intend doing this work towards the end of the month. In sheltered places laying may not be necessary, but in the majority of gardens it is well to do this work, as a smaller head is preferable to none, and in severe winters the exposed stem of the Broccoli is soon injured. In laying, it will be well this season to take every care of the roots, owing to the late growth, and to build up the soil well to the leafage.

LETTUCE.—With shorter days it will not be wise to defer the housing of the Lettuce sown in July or August for autumn supplies. In my case the supply is much less than usual, as I found a difficulty in getting the seeds to germinate owing to the heat and drought. All Lettuces, either Cos or Cabbage, that are nearly full grown will feel the cold more than small seedlings, especially if the plants are blanched. I would advise storing in frames, lifting with a ball, this keeping the plants fresh for weeks. Those who have cool fruit cases may store in these, as if the plants are kept dry overhead they do not harm the trees. It is a good plan to lift into shallow boxes, as these can be moved readily and are soon placed under cover in severe weather. It is now full late to plant out on warm borders, but the work has been delayed, owing to the ground being so dry. I would advise planting on a border not recently dug, making each plant firm at planting. Many may not agree with my advice as to a firm root-hold for the plants, thinking it best to give a

liberal supply of manure previous to planting. Lettuce needs ample food, but it must be borne in mind from now to March there will be little growth, and what is made should be as firm as possible to stand our variable climate. I rely upon food in the spring. This given freely in the shape of a good fertiliser or a top-dressing of fine manure will give the plants the food required at the season needed. If the seedlings are of a fair size, they may be planted in rows 12 inches apart and 6 inches to 8 inches in the row, this distance allowing the hoe to be used freely in mild weather. I make various shifts to get a supply. A couple of rows are planted at the foot of the Peach borders, and these, like those in beds, require attention to keep slugs away. I use soot freely, and in midwinter it has been necessary to place a circle of gaslime between the plants or outside of the beds. Those who have a good supply of spent Mushroom manure will find this a grand protection in severe winters. I mulch early in December with this material and lose very few plants.

S. M.

NOTES ON PEAS.

I COMMENCE with sowing in orchard house the first week in January May Queen, American Wonder, and Excelsior. May Queen was the first, but Excelsior was the favourite. The first week in February I started outside with Veitch's Exonian, First Crop, which does well here; Gradus, a splendid cropper with well-filled pods; and Sutton's Selected. For second crop I sow Duke of Albany and Stratagem, and for third crop, Prolific Marrow, a great favourite; Magnum Bonum, Perfection Marrowfat, and Goldfinder, a great favourite here. Autocrat does well here for autumn use. I sow this the third week in July, and May Queen in August.—T. C. GIDLEY, *Stoodleigh Court, Tiverton, Devon.*

—As in the case of Potatoes, Peas vary wonderfully in their adaptability to different soils and situations. I sow a good dwarf early variety on a well-prepared south border respectively in November and the latter end of June, and these furnish the earliest and latest pickings. The November sowing has only failed once in sixteen years, in a winter when the glass was down to zero several nights, and the young growth just coming away from the seed was frozen through. William Hurst and Chelsea Gem are the two best early dwarfs, there being nothing to choose between them. Daisy is my best second early dwarf Pea. If only one variety could be grown this would be selected. Of taller varieties in the order of coming in my best are Springtide, Criterion, Sharpe's Queen, and Ne Plus Ultra. These are sown either on Celery ground, or, failing this, in shallow trenches with plenty of manure well dug in. Thrips and mildew late in the season are the worst enemies. For small gardens where space is limited I should recommend a January sowing of William Hurst and Daisy monthly, with after sowings of the latter until May and one of William Hurst in June.—E. BURRELL, *Claremont.*

—Great strides have been made of late in the introduction of new kinds having a dwarf habit with a distinct marrow flavour, and the cropping qualities have not been lost sight of. For the past few years I have tried most of the new varieties, and found some excellent kinds well worth noting. I am aware there is no merit in mere variety, but new kinds soon find their level, and will be grown if they suit the soil and crop well. I am not in favour of the small white Peas with a thin haulm and small leafage. They are certainly early, but they lack flavour, and cannot be termed good cropping, two essential points needed in Peas. I think any Peas with pods smaller than in Chelsea Gem not worth growing. This is not a general opinion, but I have carefully tested varieties, and see no value in small round, white, early Peas that dry up quickly if not gathered and which lack flavour. Chelsea Gem is an excellent early variety difficult to beat for crop and quality. It is equally good

for forcing and for an autumn supply. May Queen, a variety of more recent introduction, has a touch of the marrow blood, and is in my opinion a distinct gain. This is a dwarf variety. Sown in pots in frames I have gathered it early in May, and from the open ground the third week in favourable seasons. This I consider one of the best of the new types and one of the best flavoured. Bountiful is a fine Pea, and well worth noting, as it is valuable for autumn sowing. It is 3½ feet in height and most prolific. Springtide is another excellent variety for early work, and what is so necessary, it is a marrow Pea, dwarf and remarkably early, and a very heavy cropper. For June supplies I do not know of any variety superior to Gradus, a really fine Pea. At first it had a difficulty in holding its own, as some very inferior stocks were sent out, but the true Gradus is one of the best introductions of late years. Another of the newer varieties is Daisy, a second early and a good companion to Gradus. This is a splendid cropper, equally valuable for its high quality, and it appears to do well in most soils. For quality and crop one must include Veitch's Maincrop. In the same category comes the older Stratagem, difficult to beat for flavour and cropping. Autocrat is excellent, as is Peerless Marrowfat, a very fine Pea with grand quality. The old Dr. Maclean is still one of the best Peas grown. The same remark applies to Veitch's Perfection. Though this was my best variety in the midlands, I now fail to grow it well, the soil or climate not being suitable. So far no Pea is superior to Ne Plus Ultra. There are many much larger, but taking it as an all-round late Pea it is still one of the best. Many, I fear, will not agree with me as to Duke of Albany, a variety seen at all exhibitions. I fail to see its value for home supplies; the quality is inferior to that of many, and the pods, though large, are soon over. The following are my best early kinds: Chelsea Gem, Exonian, William the First, Excelsior, Springtide, Daisy, and Gradus. The best midseason kinds are Eureka, Criterion, Maincrop, Perfection and Stratagem, and for later supplies, Dr. Maclean, Autocrat, Sharpe's Queen, Thomas Laxton, Ne Plus Ultra and Michaelmas. The best time to sow for an autumn supply depends upon the soil and locality. With a heavy clay soil earlier sowing would be a necessity. In the northern parts of the country the sowing could not well be deferred till very late in June, whereas in the south nearly a month later would give a full crop. I have had Sturdy, a dwarf Ne Plus Ultra, good well into November in the north, whereas further south late Peas mildew badly and fail to crop much after September. By sowing the first earlies, such as Chelsea Gem, May Queen and Exonian, late in July I have had good crops. No matter what variety is grown late, it is in a measure a question of season, position and soil.—G. WYTHES, *Syon Gardens, Brentford*.

— I find the following Peas answer in this garden, keeping up a supply from June until October, or later if autumn is good: Early kinds, Lightning, William I., and Wm. Hurst; mid-season, Duke of Albany, Autocrat, and Stratagem; autumn, Walker's Perpetual Bearer, Ne Plus Ultra, and Lightning. I sow once a fortnight, the last sowing being made about July 6.—WM. TOLTY, *Beljust Castle*.

— I grow Chelsea Gem and William I. Improved for early work, Chelsea Gem coming a few days earlier on the same border. The mid-season varieties are all well-known sorts, such as Duke of Albany, Telegraph, Telephone, Stratagem, and for latest Ne Plus Ultra and Downie's Amateur, a Pea which gives satisfaction at table and as a cropper.—JAMES M. REID, *Erskine, N.B.*

— Peas were very late in this neighbourhood, it being June 24 before I gathered the first dish out of doors. In frames and pots under glass I have grown this year Chelsea Gem, Harbinger, Defiance, and American Wonder. These I consider first-class varieties for forcing under glass. They gave some fine dishes during May and the early days of June. For early crops out of doors

my experience and observations have led me to select Chelsea Gem, Defiance, William Hurst, and William I. out of the great multitude of early Peas so highly recommended to growers as reliable kinds for first gathering. For general or second crops, the varieties that find favour here are Abundance, Boston Unrivalled, Duke of Albany, Marvel, Stratagem, Telephone, Telegraph, The Duchess, Criterion, and Veitch's Perfection. For late crops I grow Downie's Amateur, Autocrat, and Ne Plus Ultra.—JOHN MACKINNON, *Torregles, Dumfries, N.B.*

— The best Peas with me are William I., Criterion, Veitch's Maincrop (the best Pea I know), Autocrat, Chelsonian, and Ne Plus Ultra. The best early Pea is Veitch's Selected Extra Early, with William I. to follow. The best midseason is Veitch's Maincrop, and Autocrat and Chelsonian, sown here the last week in June, give a late autumn supply.—THOS. SHINGLES, *Tortworth Court, Gloucester*.

— Peas do remarkably well in this garden. For the first crop I grow First Crop, Sangster's No. 1, and William I. For second and main crops I depend on Telephone, Telegraph, and Ebor. The last I think very highly of both as a cropper and for quality. I sow every fortnight from the beginning of February until June 10, the last sowing being Telephone, Telegraph, and Hundredfold. I often gather Peas until the end of October when the frost does not cut them down. I have tried a good many varieties of Peas, but find the above all that can be desired.—W. PRIEST, *Eglinton Castle, Ayr*.

— My first early was May Queen, sown on the same day as Chelsea Gem (an improved Wm. Hurst). It was fit to pick six days sooner. Gradus has done well. It came in a week after Chelsea Gem. For my middle and main crop I grow nothing but Veitch's Perfection. I make four sowings, viz., at the beginning, middle of March, end of March, and second week in April. For late crops I grow Ne Plus Ultra, three sowings, viz., middle and end of April, and second week in May. For the two last sowings I make trenches as for Celery, sow the Peas, and cover with plenty of rotten manure. Last year I had lovely Peas in October from these sowings. I have tried a good many kinds of Peas, but have yet to find any equal to these.—C. FORBES, *Anstey Hall, Tring, Herts*.

— I consider the best Peas to be William I., Exonian, Duchess, Daisy, Supreme, Autocrat, and Ne Plus Ultra. I consider William I. the best early, being a week in advance of Exonian, Duchess the best midseason, and Autocrat and Ne Plus Ultra the best late Peas. The best time to sow late Peas is from the second week till the end of June. Gradus is a Pea I like, combining the pods of Duke of Albany with the earliness of Exonian.—FRANK SINGLETON, *Thornhill House, Stalbridge, Dorset*.

— I find Bountiful very satisfactory for a first crop; at the same time (generally early in January) I sow Fillbasket, which follows immediately. Fillbasket may not be so sugary as one would desire, but it is a variety I cannot afford to be without, as I have to pick by the bushel at a time from a limited space, and I have yet to find so good a cropper as Fillbasket. I then sow at intervals of about eighteen days such sorts as Satisfaction and Perfection. Owing to the long spell of dry weather midseason Peas had a bad time of it; still I had good gatherings from Satisfaction and Perfection. I leave off sowing Peas after June, and the variety I finish up with is Late Queen. I find that the supply of late Peas depends much on the weather. A good midseason Pea sometimes proves of much value if sown at the same time as the usual late croppers. Whilst referring to Peas, I should like to mention a variety known as Dwarf Defiance, a small packet of which was sent me for trial. Owing to the pressure of other things the packet was overlooked until May 11, when it was sown on poor soil, and beyond giving the haulm the support of a few short sticks the Peas received no further care. However, the crop was so good, and

stood the drought better than any other, that I intend to depend on it for a large crop next year. The Peas are large and plentiful, in very handsome pods, which are easy to open.—THOS. PLUMB, *Sholdon Court, Herefordshire*.

— The best early Pea for this soil and for keeping up a good supply both for quantity and quality is Dicksons' Harbinger. It is, I believe, the best early Pea grown. I have sown it the same day as William I., and gathered both the same day. It is a heavy cropper, averaging eight to ten large Peas in straight pods, and of delicious quality. Gradus is one of the best 3-foot Peas grown. It is a strong grower, heavy cropper, with large pods of ten and eleven Peas of first-class quality, equal to Ne Plus Ultra. For main-crop and late use I grow Ne Plus Ultra and Autocrat. I sow about every fortnight, the last sowing about June 20. The last sowing is always worth risking. Autocrat, I think, is the better of the two for the last sowing, being a little more free from mildew.—A. GRUBB, *Appleby Hall, Atherstone*.

— I have grown Chelsea Gem for an early this year, and it has been very good. I have grown Gradus for second early. Duke of Albany, Criterion, and Ne Plus Ultra are very good. Walker's Perpetual Bearer, sown on June 5, is the best for late crops.—E. SIMPSON, *Wrotesley, Woburnhampton*.

— For early work I use Chelsea Gem and William Hurst, following with William I. One of the best I have tried for midseason work is Fertility, a grand dark green, scimitar-shaped pod, well filled with Peas of good flavour. For late work I have found none to beat Autocrat and Ne Plus Ultra; the former named I prefer. Last year I sowed it the last week in June, and was picking in October.—W. FAIRBAIRN, *Wynnstay, Ruabon*.

— The Pea crop has been a good one. My early sorts are William I. and Ringleader. I find nothing better. I have grown the following dwarf Marrows without sticks and found them excellent: Harbinger, Sutton's Seedling Marrow, Excelsior and Early Marrowfat. They are free bearers, with large pods, well filled and of good flavour. I strongly recommend those new dwarf Marrow Peas. Other sorts requiring sticks are on an average about 3 feet high, and are Early Giant, Magnum Bonum, Veitch's Perfection and Dr. Maclean. For later use I grow Ne Plus Ultra (still one of the best in cultivation), Duchess of Edinburgh and Late Queen. My early Peas were sown in February, and I sowed the sorts named fortnightly from April to the first week in July.—JAMES TEGG, *Bearwood, Wokingham*.

— The following Peas do well with me and are the best this year: Early, William Hurst and William I.; midseason, Prince of Wales, Dr. Maclean, Smith's Bountiful, Magnum Bonum and Conqueror; late, Veitch's Perfection, Autocrat and Ne Plus Ultra. I sow late Peas from the middle of May to the middle of June. After that date it is best to sow early sorts. Autocrat, sown the last week in May, is a fine Pea for gathering about the middle of August.—A. AUSTIN, *Blackmoor Park, Worsley*.

— The varieties which I find to answer my purpose and keep up a supply from the last week in May to the first or second week in October inclusive are William I., William Hurst, Ringleader, Sangster's No. 1, Telephone, Duke of Albany and Alderman, a grand Pea for cropping and flavour. For succession after the three named, Dr. Maclean answers well; it is a splendid cropper. For my late crop I grow Veitch's Perfection, which I gathered last season in the last week of October. I find in this district that June 12 is late enough to sow for an autumn supply.—D. M. McKINNON, *Etenderry*.

— Such old varieties as Veitch's Perfection and Ne Plus Ultra will take a lot of beating, both for flavour and cropping, although on the other hand we have a first-class new sort in Autocrat. The best early Peas grown by me here are Chelsea Gem, Exonian and Earliest Marrow. For mid-season, Veitch's Perfection, Magnum Bonum,

Daisy, Advancer and Prince of Wales, the last a fine cropper, but a little deficient in flavour, are the best. For late autumn use, Autocrat, Maclean's Best of All, Ne Plus Ultra, Emperor of the Marrows and Chelsonian are the best. I sow at intervals from the middle of May till the middle of June for autumn supply.—A. KEMBER, *Gosfield Hall Gardens, Huddersfield, Essex.*

— The best early Peas, both for cropping and flavour, are American Wonder and William I. The best Marrowfats I grow are Duke of Albany, Telegraph, Telephone, Dr. Maclean, and Ne Plus Ultra, these yielding a good supply into late in the autumn. The best time to sow for an autumn supply is not later than the first week in July or last week in June.—F. CLARKE, *Lowther Castle, Penrith.*

— The Peas I favour here are Exonian, Gradus, Duke of Albany, Chelsonian, and Autocrat. The best early Pea is Exonian, followed by Gradus; the best midseason Peas are Duke of Albany, Chelsonian, and Autocrat; the best late Pea is Autocrat. The time for sowing my latest Peas is June 12. Previous to that date I sow a row or more as soon as the previous crop is well through the ground, which means a sowing about every ten days.—F. GEESON, *Midhurst.*

— As soon as the ground is in a fit state to receive the seed, I put in a few rows of Veitch's Selected Extra Early, which I have found the best for our ground. In case this should fail, I sow the same sort again with Veitch's Early Marrow in a fortnight's time from the first sowing. This latter sort comes into use a few days later than Veitch's Selected Extra Early. These are the two best early Peas I am acquainted with, and they give me entire satisfaction. For a midseason Pea, I rely almost exclusively on Maincrop, a fine-flavoured Pea, good cropper, drought and mildew-resisting, and in every way satisfactory. For continuing the supply of Peas late into the autumn, I should confine myself to a good strain of Ne Plus Ultra. I have on several occasions gathered nice dishes of this Pea in November. The next best late Pea, as far as my experience goes, is Autocrat, which I have grown now for several years. I find the middle of June quite late enough for sowing the latest batch of Peas. Even this is sometimes a failure.—J. EASTER, *Nostell Priory Gardens.*

— I find none more satisfactory than William I., Duke of Albany, Prince of Wales, and Ne Plus Ultra. Ne Plus Ultra is hard to beat for a late supply. It should not be sown later than the first week in June in this district.—JAS. FOLKARD, *Stard Hutton, York.*

— After trying many varieties of Peas, I depend mostly on William I., The Duchess, Duke of Albany, and Ne Plus Ultra. I have grown Fertility for the first time this year, and it has proved a splendid maincrop Pea. It was awarded XXX at the Chiswick trial in 1895. I grow William I. for first crop and Ne Plus Ultra for the last. I consider this the best of all Peas, and generally sow it about the second week in June. J. TURNER, *Symerton Park, Stone.*

— The Peas mentioned below, as far as my experience goes, I consider amongst the best and most reliable: Veitch's Selected Extra Early, William I., William Hurst, Kentish Invicta, Criterion, Dr. Maclean, Prince of Wales, Veitch's Perfection, Maclean's Best of All, Ne Plus Ultra, and Autocrat. The three last-named sown at intervals during the month of June, and one of the early sorts—say William I.—sown in the first or second week in July, should ensure a good autumn supply.—S. GRAY, *Rhydd Court, Worcester.*

— I find American Wonder the best early Pea. Being dwarf, it can be sown under a wall or in any warm corner, to be followed by William I. and Exonian in the open ground. For second early I grow Champion of England and Huntingdonian with Veitch's Perfection; and for late crops, Autocrat, British Queen and Ne Plus Ultra. Of the above-named kinds I grow the largest bulk of William I. for the early crop, Champion of England and Huntingdonian for

second or main crop, and Ne Plus Ultra for late, as I find it withstands the mildew better than any other variety. As I require a large quantity of Peas, I find it best to grow the older, hardier, and tried sorts. But for special dishes some of the newer varieties are better, being superior in size, but I cannot say that they are so in flavour or cropping. Pea-growing is in many cases a question of sticks, and where good, tall, bushy sticks are not obtainable I should advise growing the dwarfier kinds, as dwarf varieties well supported would be more productive than tall ones falling about in every direction.—GEO. GRIFFIN, *Slebech Park, Haverfordwest.*

— I consider Boston Unrivalled, Champion of England, Chelsea Gem, Gradus, Ne Plus Ultra, Autocrat, and Sharpe's Queen the best for cropping and flavour. The best early kind is Chelsea Gem; the best midseason, Boston Unrivalled, Autocrat, and Gradus; and the best late, Sharpe's Queen, Ne Plus Ultra, and Walker's Perpetual. I find nothing gives so good results as sowing at two different times, namely, end of May, and

Unrivalled is proving an excellent variety with me.—WM. McDOWALL, *Brechin Castle Gardens, Forfarshire.*

— The best Peas here are May Queen, Veitch's Perfection, Sharpe's Queen, Eureka, Duke of Albany, and Ne Plus Ultra. The best early kinds are May Queen, Chelsea Gem, and William I. The best midseason are Veitch's Perfection, Duke of Albany, Eureka, Sharpe's Queen, and Ne Plus Ultra. The best for autumn use are Ne Plus Ultra, Veitch's Perfection, and Eureka. The best time to sow for autumn use is the first week in June.—WM. CHESTER, *Chatsworth.*

— I find Earliest Marrow, Peerless, Ne Plus Ultra, Gradus, Criterion, Exonian, Maincrop, and Veitch's Perfection excellent varieties to grow, as they combine good flavour with heavy cropping. Earliest Marrow is a very excellent kind. It comes in very early, is of medium height, a heavy cropper, and of excellent flavour. For early work I grow Chelsea Gem for the first and Sutton's Marrowfat Seedling, a large Pea of good quality—both of these being dwarf kinds;



Hydrangea paniculata grandiflora at St. James's, West Malvern. From a photograph sent by Mr. A. Dean. (See p. 367.)

again about June 10 or June 12. By sowing at these times I usually am able to obtain a regular supply till the frost comes.—J. CROOK, *Forde Abbey, Chard.*

— The six best Peas I consider, taking into account cropping and flavour, are William I., Exonian, Duke of Albany, Gladiator, Champion of England, and Ne Plus Ultra. The best early is William I.; midseason, Duke of Albany; late varieties for autumn bearing, Autocrat and Ne Plus Ultra. The best time to sow Peas for an autumn supply in this district is the first week in June.—H. BERRY, *Ashby St. Legers, Rugby.*

— The Peas I find suitable for keeping up a supply during the season are Sangster's No. 1, A1, and Early Giant, for early use; for midseason, Boston Unrivalled, Stratagem, Telephone, Duke of York, and Duke of Albany; for autumn supply, Sturdy, Late Queen, and Latest of All. By sowing Latest of All about May 20 and the other two varieties, with Duke of Albany, ten days later, I have a supply till frost comes. Duke of Albany I consider one of the best Peas, and Boston

then for taller kinds in the open, Extra Early is the first, Exonian, Gradus, and Earliest Marrow coming in about the same time, but if I grew only one very early kind it would be Chelsea Gem. As a midseason Pea, Veitch's Perfection is still hard to beat. Criterion is excellent for flavour, but too soon over. For larger kinds, Maincrop, Early Giant, Peerless, and a good selection of Ne Plus Ultra are among the best and most useful. For late purposes, Autocrat I find the best, together with Chelsonian, a fine variety, and Late Queen for a dwarf. The best time to sow must be decided by the locality and soil. I sow as late as the middle of July, but the middle of June will suit most places. I sometimes sow Chelsea Gem and Extra Early late in July, and get a few good pickings from them, but all depends on the season.—J. HILL, *Babraham, Cambridge.*

— Chelsea Gem is the finest early variety that I have grown. Exonian comes in immediately after, and is an excellent sort. For a maincrop, Veitch's Maincrop and Duke of Albany are

hard to beat. Autocrat is my favourite late sort: the pods are of good size, the Peas of excellent quality, and it seldom grows over 4 feet in height. The most suitable time to make the last sowing of Peas is between May 20 and May 25 in this part of the country.—JAMES NICOL, *Hornby Castle, Bideford*.

—The best Peas, in my opinion, both for cropping and good flavour are Duke of Albany and Ne Plus Ultra. William I. I consider to be the best early Pea for all purposes. The two above-named I consider the best for mid season, with Gladiator and Stratagem for the late autumn supply. I find that Peas sown about the first week in June give the best results for autumn cropping in this district.—E. GILMAN, *Alton Towers Gardens, Stoke-on-Trent*.

ORCHIDS.

DENDROCHILUMS.

THE Dutch botanist Blume established this genus a good many years ago upon a species probably not now in cultivation, and afterwards added to it the kinds mentioned below. These have been separated by more modern botanists, but the old name dies hard, and *Platyclinis* the newer one comes slowly into garden use. These are pretty plants when well cultivated, and there are few more handsome objects than a plant, say, of *D. filiforme* or *D. glumaceum* with fifty or a hundred of the thread-like racemes of golden or whitish blossoms hanging in rich profusion. Like many other fine plants they are too often judged by the size of the individual blossom instead of taking a well-cultivated specimen as a whole. All are pseudo-bulbous epiphytes, the bulbs small, bearing usually a single deep green leaf and terminal flower-spike. They are natives of some of the warmest regions, and consequently their culture should not be attempted unless a nice warmth can be maintained in summer and winter. They are grown, in fact, in what is termed the East India house, but, unlike many of the *Dendrobes* and other occupants of this structure, they are frequently growing during the greater part of the year, and therefore must not be subjected to resting conditions, such as a cool and dry atmosphere. This, with one of the species at least, *D. Cobbianum*, is needed in late spring, but even this kind is variable in its season, and to be at all successful with them growers must be on the alert and treat them as they need. For instance, take a plant flowering now from half-formed growths, the spike appearing of course in the centre of the sheathing bract-like processes that eventually form at the base of the bulb. No one with a spark of common sense would think of drying off a plant like this, but would rather place it in the warmest house and endeavour to make the best of an unpleasant season for Orchid growth. Again, in spring as long as the growths keep dormant there is no need of undue excitement, but when seen to be on the move, encourage them by all reasonable means.

The manner of flowering makes baskets or suspended pans the best receptacles for the plants, for though the spikes are not exactly pendulous, they have when so grown a pretty arching effect that would be lost were the plants cultivated in pots on the stage. For compost the usual peat and Sphagnum mixture does well, and the drainage should have especial attention. Cover the crocks with a little rough Moss and allow plenty of crocks or charcoal to keep the compost open. Firm it well and see that the plants cannot possibly

shift about, the best position being one only slightly raised above the rim. They are true epiphytes, but if raised very high a difficulty is sometimes found, especially by amateur growers, in fixing them. The best time, as a rule, to renew the compost is as soon as the flowers have fallen, for the growths are then partly formed, but have not begun to root much, if any. The new roots when produced have, therefore, the benefit of the new material, and given hot weather, so that a stimulating temperature can be kept up, the growths advance rapidly. In a high temperature atmospheric moisture is, of course, quite a necessity, and under these conditions *Dendrochilums* revel. Not only this, but thrips, their worst of all insect enemies, are very uncomfortable and as a rule not troublesome. It is when a plant or two is kept growing slowly in an unsuitable house, where alternations of heat and cold, drought and moisture are frequent, that these busy little insects get their chance. Regarding root moisture, this must be abundant as long as the growth is moving, giving enough at all other times to prevent shrivelling. The best known kinds are—

D. COBBIANUM, an autumn-flowering species of much value. The spikes rise from small conical bulbs and are upwards of a foot in length, the flowers pale yellow with a deeper lip. It comes from the Philippine Islands, where Messrs. Low and Co.'s collector found it some twenty years ago. It is named after Mr. W. Cobb, of Sydenham.

D. FILIFORME is a delightful species also from the Philippines. The little flowers are of a golden-yellow tint. They have been not inaptly likened to gold filigree chains, and one seeing the plant in flower for the first time is charmed with it. Its flowering season is June and July, and it is one of the introductions of the indefatigable collector Cuming, who found and sent it home to Messrs. Loddiges in 1837.

D. GLUMACEUM is the best known of all, and a sweetly-scented, beautiful species. The spikes are larger and longer than those of any other kind, of a yellowish white tint that, though not very showy in individual flowers, is distinctly pretty in the aggregate. It flowers during the early spring months, and was introduced at or about the same time as the last-named and by the same firm of nurserymen, with whom it flowered in 1840.

D. UNCATUM is a more recently introduced species, having been imported by Messrs. Hugh Low and Co. from some of the islands about the Malay Peninsula. In colour of the flowers and also in habit it most resembles *D. filiforme*, but the racemes are stouter and shorter, not so elegant or so bright in colour.

Angræcum articulatum.—This I have recently noted doing well and flowering freely in a neighbouring collection. The pretty white blossoms on stout, arching scapes are very useful just now, but this can hardly be looked upon as its proper flowering season. It is best grown in small wooden baskets, as advised for dwarf *Phalænopsids*, the only compost necessary being a little Sphagnum Moss and charcoal or crocks. Keep this as sweet and clean as possible, and give plenty of water all the year round, only avoiding a soaked condition of the Moss during winter. It was introduced from Madagascar by Mr. Ellis, and first flowered about 1871.—H.

Odontoglossum Lindleyanum.—This is a very variable species, some few of the varieties being very poor, but a good form of it is a really fine garden Orchid. Such an one I noticed during the week; it had a spike nearly 2 feet in length, the individual blossoms being about 3 inches across, pale yellow on the sepals and petals, with one large and several smaller brown blotches. The lip has white side lobes, the centre one yellow and brown. It is a native of New Grenada, and

was introduced by the Royal Horticultural Society, in whose garden at Chiswick it first flowered in 1864. In habit and cultural requirements it is almost identical with *O. crispum*.—H. R.

Oncidium concolor.—I have noted this pretty species flowering in several collections quite recently, and of course entirely out of season. As a cultivator one never likes to see Orchids flower except at the proper time, but such beautiful blossoms as these would be very acceptable at this time of year were it its due season. Probably if this species were introduced in large quantities like some of the more popular *Odontoglossums*, for instance, we should see it in flower almost every month in the year, and as I have before pointed out the season does not affect cool-house kinds quite in the same manner as it does those species that need a dry and wet period of rest and growth respectively. *O. concolor* requires perhaps as regular a temperature all the year round as any Orchid in existence, its habitat being quite an alpine one on the Organ Mountains of Brazil. All available light in winter and a constantly cool, shady and moist house for its summer treatment suit it perfectly.—H. K.

Cynoches chlorochilon.—There is a very considerable difference in the flowers on various plants of this fine Orchid, some occurring only a few on the spike, but large individually; others smaller, but occurring in larger numbers. All have the same typical column, from which the popular name of Swan's-neck Orchid has been given, and the colour varies only a shade or two, being a lighter or darker yellow in different plants. The blossoms on some plants are pleasantly scented; in others there is little scent. Its culture is not difficult, the principal points being to grow it strongly by potting or basketing—the latter for preference—in a sound and substantial compost which will retain the abundant moisture the roots delight in. A good proportion of loam may with advantage be added to the usual mixture for epiphytal plants, the drainage must have special attention, and in planting see that the large heavy bulbs have some support until roots are freely produced. Water freely at the root while growing, but if overhead sprinkling is practised, see that the water does not lodge in the forming growth. Though deciduous, the foliage should be retained as long as possible and the plant kept well up to the light in autumn.

Cypripedium insigne Chantini.—This is usually among the earlier of the *insigne* varieties to open, and certainly one of the best. The flower is not perhaps as a rule so large as that of *C. i. Maulei*, but it is better set up, has a broader and better formed dorsal sepal, and the white marking runs nearly to the base on each side, the purple spots coming about half way up in the centre. Like many others of this class, it is not seen in its best form in weak, half-starved plants, such as are common in many collections; to grow it well it requires very liberal treatment, and until the plants reach specimen size they should be repotted at least once in two years. I have frequently had flowers of this and other varieties sent me with queries as to what was wrong, the flowers being only about half the normal size and very poor in colour. This was in most instances due to nothing else but starvation treatment. The plants must be grown in good loam fibre, peat, and chopped Sphagnum, these being kept open by the addition of crocks and charcoal. The drainage should be free and the water supply ample all the year round. Grow it in a moist greenhouse temperature, and when the growth is complete, place the plants in a good light and bring them on in batches for flowering.—H.

Trichosma suavis.—I noticed some very fine plants of this species recently, and it is apparently getting far more plentiful and better cultivated than formerly. There are fewer of the short undeveloped growths, and consequent weak flower-spikes, that hardly show above the foliage. This is caused by the plants being starved, and is also frequent upon plants not properly established or

otherwise weak. When it is evident that the flower-spikes are not going to lengthen properly, they should be pinched out, as it is useless wasting the energies of the plants upon unsightly abortive-looking flowers. The plant is very nearly related botanically to the *Ceologynes*, and, like these popular plants, delights in a very free and open compost. The peculiar roots appear to me to have a strange affinity for Sphagnum Moss, and rather more of this than peat may with advantage be used in its cultivation, adding thereto plenty of large, rough lumps of charcoal. The habit of the plant is to grow in a close tuft, and consequently it takes a number of years to make a large specimen. The best position for it is in quite a cool house, with plenty of atmospheric moisture during the whole of the year, excepting just when the flowers are open. Its native home is high up on the Khasia Hills, and here it was discovered by Gibson when collecting Orchids for the Duke of Devonshire in 1837.—H. R.

VANILLA PLANIFOLIA.

THE blossoms of this Orchid are rather unattractive, but it is the most useful of the very few species that have an economic value as distinct from their flowering qualities. The pods, obtained by artificial fertilisation, are in request for flavouring; they have a rich aroma when fully ripe, which, however, they soon lose to a great extent unless means are taken to prevent it. Imported pods arrive as a rule in protective material, as tinfoil or lead, and probably this would answer well for cultivated specimens. I lately saw a fine lot of large pods in one of the houses at Syon House, where the plant is very successfully cultivated. They are in bunches of five or six, and many of them are 7 inches and upwards in length. It would make an interesting plant for amateurs to grow, especially those who have back walls and similar places at present bare of foliage or anything else. To get plenty of fruit the position must not be too heavily shaded or dark. As freedom of flowering depends largely upon the growth being solid and hard, the plants need only be very lightly shaded at any time, while during the autumn and winter the glass above them should be clean, and every ray of light possible should reach the plants. The method of procedure at Syon is apparently to bring on plenty of young wood by planting young, healthy pieces and cutting away some of the older shoots. Anyone wishing to cover a wall quickly could not do better than obtain a few healthy, well-rooted young plants and prepare a narrow border, say about 6 inches wide, for their reception. This may be bricked, or the plants may be set in boxes or troughs made for the purpose. There must be an outlet for superfluous water, and in addition abundance of clean broken crocks for drainage, as, though roots are plentifully produced, only a few of these enter the lower compost, those higher up preferring to take hold of a brick wall or anything that happens to come in their way. Personally, I like to establish the young plants in small pots before setting them out, as I have found in a few cases when planted just as cut off that they did not start regularly. I have found, too, that a little additional warmth after they are cut from the parent plant gives them a start, and this is easily provided when pots are used at first. Where a little bottom-heat can be turned on under the border or boxes, there is not, of course, so much need for it. After planting, a brisk temperature may be kept up and plenty of growth got into the plants by early closing and judicious use of fire-heat. The night temperature should be kept up to 65° on cold nights by fire-heat, advancing this by degrees as the days

lengthen. By April or May a few flowers may be produced, and these should be fertilised. If a good set can be obtained, it is as well not to set any after midsummer, and a slightly dry atmosphere should be maintained in the house until the pods begin to swell. Then push on the moisture and warmth until the end of August, when a slight diminution in the latter may be made. The plants, as they grow, need some support, of course, and this, in the case of Mr. Wythes' plants, is effected by running wires horizontally at a distance of 4 inches or so from the wall. Their very thriving appearance and the large number of pods produced prove the treatment accorded to be correct. H. R.

Masdevallia racemosa.—This is one of the most distinct of Masdevallias, a plant not by any means common in cultivation, and one that would be well worth importing in quantity if it could be done. The plant, instead of producing single-flowered scapes, throws up a tall semi-erect raceme carrying a dozen or more bright orange-crimson flowers, each about 1½ inches across. The plant is a native of New Grenada, and was

chaste and beautiful little bloom, and a welcome addition to any collection of Orchids. Here it does remarkably well in a house devoted principally to Ferns, but containing also such Orchids as *Odontoglossum grande*, *O. citrosum*, and several of the larger-growing *Cymbidiums*. Many growers do it well in the *Cattleya* house, proving that it likes more heat than most *Odontoglossums*. The plants should be placed in medium-sized pans or baskets and suspended near the roof, where they get the full advantage of light in winter and the best of the air currents in summer. *O. Krameri* and its varieties are natives of Costa Rica, whence M. C. Kramer sent the typical plant to Messrs. Veitch in 1868.—H. R.

Cattleya Bowringiana.—I noticed a finely-flowered specimen of this pretty *Cattleya* at Syon House the last week in September, this being a good deal earlier than its usual flowering season. The plant had evidently been in bloom some time, and for a place so near the metropolis it is doubtless a great advantage to have it flowering thus early. The delicate flowers, so bright and effective, are, of course, of the utmost value during dull November, but it is better to have



Water Lilies in lower ponds at St. James's, West Malvern. From a photograph sent by Mr. A. Dean. (See p. 367.)

named by Dr. Lindley from specimens collected many years before it was introduced to cultivation, as far back as 1839 in fact. The first living plants that reached this country were collected by Mr. Carder in 1883, and it is now seldom seen in any quantity. Its culture does not differ materially from that given to other *Masdevallias*, as it thrives in a cool, moist house all the year round, likes a thin compost and a regular water supply.

Odontoglossum Krameri album.—I have noticed some nice plants of this in flower during the week, and this pretty variety seems to be getting more plentiful. In place of the pale purple-rose of the typical flowers the variety has them pure white with only a yellow centre in the lip, a

them in September than have them ruined by the fog at the later date. Some two or three years ago I mentioned plants of this species that I had seen doing well under warmer conditions than are usually given it, and the only fault of the warmer treatment is that the flowers are produced too early. In country districts where the air is pure even November fogs are not to be feared, but it is quite different near London. I have noticed that many of our most successful growers in the latter neighbourhood report their plants before flowering, when the young roots are only just appearing, a proceeding that suits the plants well, but it is bad, perhaps, for the flowers. I can confidently recommend amateur growers around London giving this species

rather more warmth than the majority of Catleyas, for the reason noted above; it will not harm the plants in the slightest degree. They are, in fact, all the better for it, while those country readers who have a difficulty in keeping up a display in autumn will also find it to their advantage. The plant is a native of Honduras, and was introduced about fourteen years ago by Messrs. Veitch and Sons.—H.

Oncidium laxense.—I recently noted this uncommon species in flower, and this is much later in the season than I have seen it before. The spike was about $4\frac{1}{2}$ feet in length and the individual flowers upwards of 3 inches in diameter. It is certainly one of the finest of the *O. macranthum* section. It comes from Ecuador, and thrives in company with cool house kinds generally, liking a fairly large pot and a very rough, open compost consisting of peat, Moss, and roughly broken charcoal and crocks. Though discovered as far back as 1842, it was probably never in cultivation until quite recent years, and is even now a rare plant.—H.

DESTROYERS.

BEEES AND FRUIT.

THE correspondence published last week makes it quite clear that in some localities bees have given trouble as attackers of fruit. Lest, however, it should be thought that the evidence is all on one side, I will ask you to be good enough to publish the letter from a resident in Herefordshire which I enclose, typical of others which have been kindly sent me. It will be seen that bees differ widely in this respect, an interesting peculiarity owing, doubtless, as suggested by Mr. Archer-Hind, to the varying conditions of their natural food supply. Next to the preservation of a healthy and fertile queen, the leading instinct of the honey-bee is the storage in abundant quantities of the sweet and aromatic nectar produced by many flowers for its benefit, or that of other fertilising insects. For this nectar the sub-acid juice of our ordinary fruits must be but a sorry substitute, and its storing qualities even when ripened in the hive are probably indifferent. The past year has been in many places very unfavourable to the production of honey, and in the absence of flower-nectar bees have been driven to collecting honey-dew. This is of two kinds, one being an exudation from the leaves of various trees under unhealthy conditions, the other a secretion of leaf-juices by aphids. This latter is the source of the black, mawkish, so-called honey which has been produced this season in many districts. It is probably no more palatable to bees than to human beings, and on this supply, in its turn, failing, they are led to attack fruit. With me, no honey-dew was collected, and although my hives were close by walls on which Peaches, Figs, &c., could with great difficulty be preserved, owing to the persistent attacks of wasps and blue-bottle flies, the bees remained as usual perfectly indifferent to fruit, and while the greenhouse often contained many bees, the vinery next door was free from them. It may be confidently expected that in a year less unfavourable to our honey gatherers, few gardeners will have to complain of their depredations, which, indeed, are a small matter when we consider that, in addition to their great value as fertilising agents, we are, as modern science teaches us, indirectly indebted to these useful insects and their kindred, under a kindly Providence, for the wealth of brilliant flowers that adorn our gardens.—H. J. O. WALKER (Lt. Col.), *Leeford, Bulleigh Salterton.*

"For at least twenty years I have kept bees, and now have fifteen hives. I am passionately fond of my garden and spend all my spare time there. I grow Grapes and Peaches in my houses, and outside Peaches, Apricots, Figs, Plums, Green Gages, Pears, and Apples in quantity, but never once have I seen a bee attack them. My gardener says, 'I never saw bees attack fruit, and they have plenty of chance here, but I will take more

notice in future.' All I can say is that here, at any rate, it is a libel on the bee."—SPENCER H. BICKHAM, *Underdown, Ledbury.*

—The notes that have appeared in THE GARDEN anent these are interesting, especially to those who, like myself, keep several hives. For several seasons I have found bees attack the Plums. In my own case they have not injured any fruit but Plums. When they take to them they are severe. I have noticed bees never touch fruit as long as they can obtain honey from flowers. I am under the impression they are from hives where the store of honey is low, or where the honey has been taken from them. I consider bees useful in the garden, and if more were kept we should not hear so much of fruit setting badly.—J. CROOK.

Bullfinches and Gooseberry trees.—Bullfinches are so numerous in the much-wooded neighbourhood of Oundle, Northamptonshire, as to be a perfect nuisance to gardeners and cottagers. All manner of preventive methods have to be adopted in order to save Gooseberry buds from destruction. But even supposing the Gooseberry trees to be saved, there are certain Plums these birds are very partial to, and these easily fall a prey to them. In infested districts it is very little use planting the Cherry Plum, as bullfinches make such a raid on the buds. In spite of the frequent pleas put forward on behalf of the poor bullfinch, one cannot wonder at the gardener or cottager shooting it.—C.

Earwigs.—In answer to a query as to the best means to be employed for the destruction of earwigs, I regret my inability to offer any other remedy than traps of various descriptions used as early in the season as possible. My remarks were directed solely to their attacks on wall fruit. On old walls, however, that bear the scars of nearly 200 years, earwigs are very numerous, and in nine seasons out of ten I should hardly have a sound Peach, Nectarine or Apricot if they were not trapped immediately they make their appearance. This early trapping is the secret of success so far as walls are concerned. I left it one season until the fruit was approaching the ripening stage, and although thousands of the insects were then destroyed, there appeared to be no end to their numbers, and most of the fruit was tapped. After that experience I have invariably placed the traps in position early in July, and, as stated in the note, very nearly a clean sweep is made of them before the softening of the fruit. Where the giant Reed (*Arundo donax*) is available, it is preferable to Bean stalks as a trap. Short lengths of the former preserve their straightness, and the interior being smooth the insects are the more easily dislodged. Writing of insects reminds me to note in connection with wasps that nearly one hundred nests have been destroyed within a half-mile radius, taking the garden as a centre.—E. BURRELL.

A note from the S.W. of Scotland.—The weather here, with the exception of a few days, about the 15th, 16th and 17th of October, when a bitter east gale prevailed, doing much injury to exposed plants, has been very mild. To day (Oct. 23) Hydrangeas and such hardy Fuchsias as *Riccartoni*, *coccinea*, and *M. Lemoine's* new hybrid, *Bouquet*, are still in bloom with the little *F. pumila*. *Cistus corbariensis* is yet in flower together with a few single and double *Helianthemums*. Roses are in bloom, among them the old double white, *Reine Marie Henriette*, *Alister Stella Grey*, *Mme. Isaac Pereire* and others. Autumn Crocuses and double Meadow Saffrons are plentiful. *Phloxes* are yet in bloom with Japanese *Anemones*, a number of *Michaelmas Daisies*, and *Moon Daisies*. *Phygelius capensis* is finer than earlier in the season. *Erica carnea* has begun to show colour and promises well for an early bloom. *Galanthus cilicicus* is well through the ground, and Mr. Whittall's new giant *Snow-drop* is also showing. *Eccremocarpos scaber* is still flowering, and near by some of the *Clematises* are covered with their feathered seeds. In the

rock garden *Plumbago Larpenæ* is yet bright, and *Erodium supracanum* gives a few of its delicately coloured flowers. Here and there are little patches or spots of colour, with late flowers or second blooms on alpine, and the bright green of the foliage of many of these is very pleasing. *Dahlias*, *Tropæolums* and *Sweet Peas* are not yet cut down and annuals are still in bloom.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

The weather in West Herts.—During the past fortnight there has not been a single unseasonably cold day and only one cold night, so that the warm period known as "St. Luke's little summer," which often occurs in the latter half of October, may be said to have been unusually well marked this year. On the cold night in question the exposed thermometer showed 6° of frost, making this the coldest night as yet this autumn. My Dahlias were only very slightly injured by this frost, just a few of the upper leaves being discoloured by it. At 1 foot deep the ground is now about 1° warmer, and at 2 feet deep about 3° warmer than is seasonable. Rain fell on two days to the total depth of rather more than half an inch. On the 1st the sun shone for seven hours, which is a high record for a November day. The past month was the warmest October of which I have here any record. October, 1886, was, however, very nearly as warm. As regards temperature, the most noteworthy feature was the number of warm nights and the absence of unusual cold on any of them, the exposed thermometer at no time indicating more than 3° of frost. Rain was measured on fifteen days to the aggregate depth of 2½ inches, which is nearly half an inch below the average for the month. In the same month in 1891 the fall was 8 inches. The sun shone on an average for 2½ hours a day, or about an hour a day less than the October mean.—E. M., *Berkhamsted.*

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

FLORAL COMMITTEE.

ON Monday last at the Royal Aquarium there was a meeting of the floral committee, when Mr. T. Bevan occupied the chair. As might be expected, there was a fairly full attendance of members, and a considerable amount of work was done in adjudicating upon the number of exhibits submitted. The principal contributions came from Messrs. H. Cannell and Sons, N. Molyneux, W. Wells, W. J. Godfrey, R. Owen, H. J. Jones, W. Seward, H. Weeks, and several others, whose total made a very excellent display, and it was a subject of remark that there was a high standard of quality in all the exhibits.

First-class certificates were awarded as under—

CHRYSANTHEMUM SIR HERBERT KITCHENER.—A very large Japanese, with medium-sized florets; colour bright golden-chestnut-bronze, with a golden reverse; florets long and drooping. Staged by Mr. R. Owen.

CHRYSANTHEMUM JOHN MILES.—An incurved flower, very perfect in form, deep and globular; colour rich golden-orange. From Mr. N. Molyneux.

CHRYSANTHEMUM MRS. COOMBS.—A Japanese with very long drooping florets, very full and double; colour deep rosy mauve. From Mr. H. Weeks.

CHRYSANTHEMUM LADY CRAWSHAW.—A large Japanese with narrow intermingling florets; colour creamy white, slightly tinted. From Mr. H. Weeks.

CHRYSANTHEMUM EMILY TOWERS.—A Japanese with medium-sized florets, incurved in the centre; rosy mauve-pink, with pretty silvery pink reverse. From Mr. Weeks.

CHRYSANTHEMUM HENRY WEEKS.—A Japanese of large size with medium florets, the outer ones purplish crimson, inside reddish crimson, golden reverse. Shown by Mr. Wells.

CHRYSANTHEMUM MRS. WHITE-POPHAM.—A very large Japanese incurved, with very broad, grooved florets, bold and effective; colour white, deeply shaded rosy purple. From Mr. W. Wells.

CHRYSANTHEMUM MRS. W. MEASE.—The well-known Mme. Carnot sport, much paler than G. J. Warren. It is as beautifully formed as its parent, Mme. Carnot, and the colour is a pure pale sulphur or primrose. Exhibited by Mr. Godfrey.

CHRYSANTHEMUM NELLIE POCKETT.—This is of Australian origin, a very fine Japanese incurved, with narrow grooved florets; colour pure glistening white. Shown by Mr. W. Wells.

CHRYSANTHEMUM MYTCHETT BEAUTY.—A golden yellow decorative Japanese, very free and useful. From Mr. Wells.

CHRYSANTHEMUM R. HOOPER PEARSON.—This is a large Japanese, big and solid, a kind of yellow Mutual Friend, with very broad florets, curly at the tips. The colour is a deep velvety golden yellow, with a reverse of glistening pale gold-yellow. From Mr. H. J. Jones.

CHRYSANTHEMUM RYECROFT SCARLET.—This is a very useful decorative, free-flowering Japanese. The colour is crimson-red, with golden reverse. From Mr. H. J. Jones.

Some very good varieties submitted to the committee hardly came up to the standard required. Of these, Fred. Jones, a fine crimson Japanese with golden reverse; Fair Maid, a flat Japanese, of a pretty shade of lilac-pink; Jane Bloomfield, a very fine shade of golden yellow; and Le Grand Dragon, a deep golden yellow, the committee wished to see again.

Apart from those specially noticed by the committee, we think Jane Molyneux, a fine long-petalled, white Japanese; Miss Mary Leschelles, the white sport from Reine d'Angleterre, and several others will be heard of again.

On Monday evening last the executive committee of this society held a meeting at Carr's Restaurant, Strand, when Mr. T. W. Sanders occupied the chair. Some time was occupied in disposing of the minutes of two previous meetings and of correspondence relating to various matters that had arisen since. After this the chairman gave in a report from the sub-committee appointed to take the necessary steps to defend the action recently brought against the society, and which resulted in a verdict in its favour. A vote of thanks was accorded to Messrs. Sanders, Harman-Payne, and A. Taylor for their trouble in acting as this committee. It was announced that the classification committee would meet at 1 o'clock on the first day of the forthcoming November show. The secretary then reported that the prize-money, £47 5s., awarded at the October show had been paid, and the committee confirmed the awards of the arbitration committee to the miscellaneous exhibits on that occasion. The report of the dinner sub-committee was next presented. It was recommended that it take place at the Holborn Restaurant on Wednesday, November 30, and that ladies be invited. The charge will be five shillings. Regarding the fixtures for 1899, it was resolved that the shows be as follows: October 10, 11 & 12, November 7, 8 and 9, and December 5, 6 and 7, and that no September show be held. Arrangements as to stewards, judges, luncheon, &c., brought the meeting to the end of the agenda paper, and after the election of twenty-three members and one Fellow the meeting broke up.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, November 8, in the Drill Hall, James Street, Westminster, 1 to 4 p.m. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Prof. Geo. Henslow, M.A., at 3 o'clock.

Royal Gardeners' Orphan Fund.—The executive committee met at the Horticultural Club on the 28th ult., Mr. William Marshall presiding, when the following special donations were

announced: Ealing Gardeners' Society, £15; Sandringham Estate Cottage Garden Society, £5 5s.; Mr. R. McLachlan, Lewisham, £5 5s.; Trentham Horticultural Society, per Mr. P. Blair, £5; Miss Faulkner, Wimbledon Horticultural Society, £5; Mr. J. Selway, Betchesanger, £2 15s.; Mr. A. D. Christie, opening The Gardens, Ragley, Alcester, £1 13s.; Hesse Gardeners' Society, £1 4s. 1d.; Earl Dysart, £1; Mr. C. Sutton, Chevening Park (box), 15s. 6d.; Mrs. Wills, 16, Onslow Crescent, S.W. (box), 12s. 6d.; Mr. W. Miles, Southampton (box), 11s. 9d.; Mr. Parker, Stroud, 10s. 6d.; Mr. H. Burbidge, Westgate, 10s.; Mr. N. Kneller, Malshanger (box), 7s. 6d.; and Mr. J. Bendell, Ringwood, 10s. 6d. Letters were read from the mothers of children who had ceased to be chargeable to the fund, owing to the operation of the age limit, bearing testimony to the great assistance afforded to them by the fund at a time of great necessity. It was resolved that the annual general meeting of subscribers to the fund and election of children should take place on February 17 next.

PUBLIC GARDENS.

A new garden off Russell Square.—A letter has been issued from the Bedford Estate office, addressed to the local authority (the St. Giles District Board of Works) and others interested, intimating that as the leases of the premises in Montague Mews and Southampton Mews, Russell Square, are about expiring, his Grace proposes to pull down the stables and close the mews. The site is to be converted into a garden for the use of the tenants on the estate in the neighbourhood, very few of whom use the stables, a number of which have been let to jobmasters of late years.

Hampstead Heath extension.—The Marylebone Vestry have sent to the London County Council and the Paddington, the St. Pancras, and the Hampstead Vestries a resolution "that, in view of the many reports current as to the contemplated use of the Golder's Hill estate, they are of opinion that the interests of the public would be best served by the beautiful grounds being preserved as nearly as possible in their present state, the residence of the late Sir Spencer Wells being used as a museum and refreshment rooms under the same regulations as the Waterloo Park estate."

The value of fowls' manure.—Manure from fowl-houses, and also that from pigeon-lofts, is often ruthlessly thrown away, whereas it might be put to good use in the garden. One good Primula grower I knew always used it for his plants, mixing it when in a dry state with the potting soil. When perfectly dry it is easily reduced to a powder. It must be used in moderation, being very strong. The same grower used also to throw a bagful of the manure into a tub of water and water the Primulas when in full growth with the liquid, taking care to dilute it sufficiently. The vigour of the plants and the size and colour of the bloom-trusses testified to its suitability as a fertiliser. This manure is also well suited for applying to plots of Turnips, particularly early crops, as, being of a heating nature, it promotes a speedy growth. For small border sowings a little of the manure may well be dug in, later on giving a sprinkling between the rows, and afterwards loosening the surface with the Dutch hoe. Rain, or in dry weather artificial waterings, will do the rest.—NORWICH.

Paris Universal Exhibition, 1900.—The plans of the horticultural section at the Paris Exhibition of 1900 are now complete, and it promises to be a very attractive building. Space has been secured for British exhibitors, and it is hoped that it will be filled in a manner to reflect credit on horticulture in this country. It is understood that there will be periodical shows of flowers

and fruit during the continuation of the exhibition. A sub-committee of the Royal Commission composed of the following gentlemen has been formed: Sir J. Trevor Lawrence, Bart., Sir Edward Grey, Bart., M.P., Mr. W. T. Thiselton-Dyer, Dr. Masters, Dr. Schlich, Mr. T. A. Dorr-Smith, and Mr. Harry J. Veitch, who is to be the honorary secretary to the sub-committee. Any communications may be addressed to him or to the secretary, Royal Commission, Paris Exhibition, St. Stephen's House, Westminster, S.W.

OBITUARY.

MR. LATIMER CLARK.

It is with very deep regret I record the death of this gentleman, which took place very suddenly at his residence, The Grove, Kensington. As a civil and electrical engineer Mr. Clark was known throughout the world, but as a gardener, and especially as a lover and grower of the choicest alpine, bulbous and bog plants, he was equally well known. When living some years since on the highest part of Sydenham Hill, Mr. Clark's garden was among the most picturesque I have seen, scarcely a department in hardy plant gardening being left untouched. The usual method of summer bedding found no favour with him, but the banks of Rhododendrons, beds of choice American plants, and countless beds of hardy bulbous and herbaceous plants generally absorbed much of his spare time. It was a garden full of treasures, in which it was difficult to particularise. The rock garden, and equally the bog garden, received considerable attention, and not least of the many things in which Mr. Clark took especial interest was the embellishing of several acres of woodland with suitable subjects. Of Narcissi and Croci he had at one time choice collections, and in his Sydenham garden *Narcissus maximus* was a thing to remember by those who saw it in flower. Giant masses of Christmas Roses, the solid tufts over 2 feet through and of the major variety, could scarcely be surpassed, and were justly treasured by their owner. Hardy Ferns, too, and aquatics all received adequate care and attention. A somewhat interesting, if not indeed a unique, feature of the garden here noted was the great extent of wall gardening practised in every direction, the walls being pocketed on the top to receive soil, and in this way a great number of hardy plants were grown with success. Mr. Clark was a Fellow of the Royal Horticultural Society and a regular visitor to the fortnightly meetings, ever on the alert to obtain anything new or meritorious among the subjects he knew and grew so well.

E. J.

Endurance of Bamboo stakes out of doors.—Have any of your readers any experience of the endurance of Bamboos in gardens whether as espaliers or as stakes? I have heard they endure much longer than any of our own native woods.—E. T. L.

Hybrid failures.—I shall be greatly obliged to any raisers of hybrids or varieties by crossing (not spontaneous seedlings) who will tell me of any species which failed to take the pollen of any other species, or of any variety of a species which could not be fertilised by crossing it with some other variety or species. I should like also to record any plants which could not be fertilised by their own pollen or with pollen of other plants of the same species.—GEORGE HENSLAW, 80, Holland Park, W.

Table decorations (J. B. B.).—"Table Decoration." By Wm. Low. Messrs. Chapman and Hall, London.

Names of plants.—F. S. Fowler.—1, Marvel of Peru (*Mirabilis Jalapa*); 2, *Elæagnus longipes*; 3, *Elæagnus reflexa aureo-variegata*.

Names of fruit.—Bucks.—Pears: 1, Beurré Sterckmans; 2, Marie Louise; 3, Beurré Diel. Apples: 4, Abbey Waltham Seedling; 5, Lord Derby; 6, Winter Hawthornden.—T. S. Robinson.—Apple Northern Greening.

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THE MARKET GARDEN.

FERNS FOR MARKET.

THE demand for Ferns seems yearly to be on the increase, and although nurseries devoted almost entirely to their culture are on the increase, the supply does not appear to exceed the demand, at least not for well-grown stock. The plants consist chiefly of such sorts as are well known, and it requires some time to get buyers to take anything new. It is surprising how few out of the vast number of varieties are appreciated for general market work. The Ferns are used in various sizes, from tiny plants in 2-inch pots up to large plants in 6-inch pots. Some are grown on into 8-inch pots, but there is little demand for these generally. Of course they do not make much advance in growth after they come into use for decoration, but they stand better than when grown in larger pots. Over-watering is often a fault with people who do not understand plants, but with large plants in small pots it is difficult to err in that way. Of *Adiantum*, *A. cuneatum* is still more extensively grown than any other variety both for pots and cutting. The next to this is *A. elegans*, which has rather larger fronds and grows more erect. A great advantage in this variety is that it is hardier than *A. cuneatum*, and will grow better during the winter. For cutting it is considered by many to be far superior to the older variety. *A. Farleyense* in the hands of market growers has proved a valuable variety. Being grown fully exposed to the light, it stands much better than when grown under heavy shading. Of course it is only for special work that it can be used, and it is not profitable to grow for cutting from, for the new fronds do not come freely after the plants have been denuded of their mature ones. *A. scutum* or *tenerum* is a very popular variety. *A. Rochfordi*, a compact-growing variety, finds some favour as a pot plant. This is identical with *A. grande*. There are many slight varia-

tions of the cuneatum type, and in selecting plants for spores it is essential to choose those of the best habit. All the *Adiantums* used for market work should be grown well exposed to the light and confined to rather small pots. It is only when the pots are full of roots that they make the firm, hard fronds so necessary for decoration either when cut or as pot plants. Of the *Aspleniums* the most popular is *A. biforme*. There are several slight variations of this. One I had from Messrs. Backhouse and Son some years ago under the name of *divaricatum* is the best form I have met with, and most growers have this under the name of *biforme*. The true type of *A. bulbiferum* is a useful Fern, but rather slow. *A. laxum pumilum* is another popular variety, but it is not quite so prolific in young bulbils, and consequently does not find its way to market in such large quantities. It is, however, worth looking after, as it will generally command a higher price than *A. biforme*. *A. bulbiferum* var. *Hilli* is a new variety with narrow and more erect fronds than the type, and seems likely to make a useful Fern, more especially for small pots. *Lomarias* are not so popular as formerly, yet *L. gibba* when well grown finds some favour, more particularly for provincial trade. Of *L. ciliata* the normal form was of little use, but the variety *major*, which is of more vigorous growth and has fronds altogether of better substance, makes even a better plant than *gibba*. Seedlings are a little inclined to vary, as far as I have seen, but with careful selection I think it might even yet be improved upon. Within the last few years *Nephrolepis* have come much to the front. The most popular is *N. exaltata*, which makes such a grand basket Fern. It also makes a fine pot plant, and no Fern now finds a more ready sale. The best form is that which is grown in America as *N. bostonensis*. *N. davallioides furcans*, *N. plumosa*, and *N. tuberosa* may all be included as useful market varieties. There is not a large demand for *Davallias* as market plants, but they deserve more attention, especially those of

the dissecta type. When raised from spores and grown on freely they make very pretty plants and stand well. All of the *bullata*, *fijiensis*, and *canariensis* types vary when raised from spores, but they make much more compact plants than those propagated by division, and are very pretty in quite a small state. They should not be given too much heat, but should have plenty of light, with a fairly moist atmosphere.

Cyrtomium falcatum ranks as one of our first market Ferns and is grown in very large quantities. Although nearly hardy it may be grown in heat, but there must be plenty of moisture, or thrips will be troublesome. Potted in good loam, with a little manure added, it grows freely and makes fronds of good substance. There are several varieties, but it is rarely met with except under the old name. The variety *laciniatum* or *Fensomi* is the best. The *Pterises* are the most important of all for market work. Though confined to comparatively few species, the varieties are very numerous, especially of the *cretica* and *serrulata* types. Of the former, *major* is perhaps more in demand than any other variety at the present time. The variety *Ouvardi* has long been considered the best form of this, but I have lately seen a variety named *Drinkwateri* which seems likely to supersede it, having broader pinnæ, the fronds having great substance. In a large batch raised from spores there seems little variation. Of the crested varieties of *cretica*, *Wimsetti* is certainly one of the best. It is remarkable how true this comes from spores. A good selection of the ordinary *cretica cristata* also finds much favour, while *nobilis* seems to have dropped behind during the last year or two. The ordinary type of *P. serrulata* is still in demand, but the broad forms of *cretica* have to some extent taken its place. Several crested varieties of *serrulata* are also extensively grown, the true form of *cristata compacta*, as sent out some years ago, being one of the best. To keep a good stock it requires care in selecting the spores. The heavy tasselled varieties should

be avoided. *P. tremula* takes a front rank among market Ferns, and in this again, though not usually distinguished by names, there are several distinct varieties, those with the broad pinnules and nearly triangular fronds being generally preferred. In growing on this useful Fern, if three or four young plants are potted together, one will generally take the lead, but the weaker ones help to furnish the base with smaller fronds, while when grown singly the plants are apt to be rather thin at the base. The pretty crested variety *Smithiana* has not proved a valuable market plant, being too brittle to stand the rough usage that market plants usually get. *P. argyrea*, though not grown to the same extent as any of the above, finds some favour. It is often grown in too high a temperature, and is very tender besides running up tall, but where grown cool and two or three plants potted together it is very useful. Out of the great number of species and varieties of *Polypodium* there is only one which may be considered a useful market Fern. This is *P. aureum*. The pale glaucous green gives a nice contrast to other Ferns, and it is one of the most vigorous growers we have. In very cold weather the fronds turn black if exposed, but otherwise it stands well and will last in a room unless the temperature goes down nearly to freezing point.

Of Ferns which are not so extensively grown, though very useful, I may mention *Doryopteris palmata*, *Osmunda palustris*, *Lastrea patens*, *L. aristata variegata*, and others, but those who wish to succeed should confine themselves chiefly to the standard varieties, and be very careful not to go in for large batches of those not in demand. A.

KITCHEN GARDEN.

GARDEN TURNIPS.

THE past season has been one of the worst on record for the production of sweet, juicy Turnips, for since the showery month of May very little rain has fallen in this district, and the weather at times has been unusually hot, which was anything but favourable to the production of delicately flavoured roots. It is well to note in such weather how the different varieties have stood the drought and the length of time they were fit for the table. I will take the early ones first. Up to the end of April only 4.72 inches of rain had fallen during the year, so by that time the soil had got fairly dry, vegetation had not made much headway, most things being backward for the time of year. In May we had 3.45 inches of rain, which thoroughly moistened the soil, so that growth was more rapid. Early Milan, which is a favourite with most people, did fairly well, but the roots are flat and soon go stringy, being only in first-class condition for a few days when the weather is dry. Cardinal is a red variety of this type, and soon goes tough. White Milan is another, and the same may be said of Scarlet and Yellow Perfection. The two varieties that find most favour here for early sowing are Snowball and Early Stone. The former, if a true stock be procured, makes handsome roots with a good depth of flesh, which is of most delicate flavour. This also remains in good condition for a longer period than any of those previously named. The Early White Stone is an excellent variety for spring and summer use, the roots of good shape and well flavoured, being quick in growth and retaining their flavour for some time. Amongst the mid-season kinds I may mention Carter's Purple-

top Strap-leaf. The shape is good, it grows quickly, and the flavour is excellent while it lasts, but, unfortunately, in hot weather it soon goes strong, necessitating frequent sowing. Carter's Golden Rose—why so named I do not know, as with me there was no rose colour about it—is a beautiful yellow-fleshed variety of handsome globe shape, the upper portion of the skin of a brownish colour. This remains in good condition for a long time, and those who prefer yellow-fleshed varieties will find this a good one. Green-top Stone is also one that should not be lost sight of, as it is hardy and resists the frost well. In Criterion, a late variety, the skin on the upper portion is pink, and the roots tankard-shaped. It resists the dry weather well, the roots penetrating the soil to a greater depth. Of all the varieties that I have yet grown for late use Red Globe is the best. The roots are handsome in shape, flesh very delicate, while for both growth and hardiness it will stand the test with any other variety in commerce. Those who procure a true stock of this should make two autumn sowings, one at the end of July and the other about the middle of August.

Three things are essential for the production of first-class Turnips. First, the soil must be rich without the addition of any fresh manure near the surface; second, ample room must be allowed for the roots to develop, for when allowed to stand too close together more foliage than roots is made; thirdly, they must never be allowed to suffer from want of moisture, particularly when small, for when this happens the roots are sure to be tough and stringy. With care and attention, good sweet roots may be had from the open ground from the latter end of May or early in June till March the following year. It is, however, advisable to make only small sowings at short intervals between March and July, after which date a greater breadth may be sown. As the weather becomes cooler the roots do not so soon get tough. It is always well to make a sowing towards the end of August, for if the winter be mild these late sowings will grow through the winter and be found very serviceable in early spring. H. C. PRINSEP.

Globe-shaped Beet.—When looking round the Royal Horticultural Gardens a few weeks back I noticed a fine strain of the above Beet growing on one of the open quarters. It certainly is the best shaped type of Globe Beet that I have ever seen, and is a wonderful improvement on the older and flatter kinds which were generally grown a few years ago. Another thing which struck me was the uniform growth both of the tops and the roots, and not a rogue was to be seen amongst them. On testing one of the latter, the colour was found to be dark and rich-looking, and had every appearance of proving to be a first-class table Beet when cooked. Anyone after seeing this fine type of Beetroot would not care to again grow the flatter-shaped Egyptian and other similar strains, so infinitely superior is it to them. —A. W.

Borecole, Arctic Green Curled.—With many growers this year the Kales are not a success, as, unless planted before the heat and drought were so great, they suffered badly. The broad-leaved Kales, such as Asparagus and similar kinds, are not at all good in soils very light and porous; indeed, in the southern parts of the country there is a great want of good winter Kales, such kinds as Ragged Jack and Cottager's Kale having suffered much from disease. The newer forms of Arctic Kales, of which there are two distinct kinds, the purple and green, are specially good this season. These plants stand drought grandly. Mine were planted on land cleared of early Strawberries. The ground was not dug, merely hoed

over, and rather deep drills drawn. The plants now present a beautiful appearance, and will give a lot of cutting material for some months. I like the green variety best, but the purple is quite as good.—G. W.

Feeding Rhubarb.—Those who force Rhubarb, well know the value of giving food, and there is no time better than the present, as the plant being free of leafage may be given food in the shape of a liberal top-dressing of decayed manure. Not only is food well repaid in the quantity and quality of the produce the next season, but the produce is earlier if the winter is severe, as if the manure is given early in the autumn it is pulverised and acts as a protector in the spring. I find it an excellent plan to give Rhubarb any spare material in the shape of a mulch. If manure is scarce, old leaf-soil mixed with a fertiliser makes a good food, and much finer growths and better colour will be obtained. A greater weight of produce is obtained if new quarters are given every three or five years. I sow seed for this purpose, but equally good results may be had by root-division.—S. B.

Artichokes flowering.—These flower only in late seasons, or in those in which there has been a somewhat prolonged period of bright weather. These conditions obtained in a marked degree this year. Artichokes flowered more freely than usual, and, used as cut flowers for room decoration, they have been very striking and, to some visitors, of much interest. There is in these a more decided depth of colour than in any of the annual Sunflowers, which they so closely resemble, and this is heightened by the black scaly calyx of the unopened buds. Unlike Sunflowers, too, I found that, instead of withering in a few days, they improved in the house from the development of the unopened buds. They take up a deal of water through the stems, which made it necessary to arrange them in large vases. Given this they lasted well a week, and were fresher than Sunflowers were after two or three days.—W. S.

Edible fungi.—Among the edible fungi available at this season of the year I should be inclined to give preference to the tall or cylindrical *Agaricus*. Several modern garden books do not notice it at all. I do not know by what particular name it is known among the *Agarici* other than as I have described it. Perhaps some reader of THE GARDEN may be able to give it. It is generally to be found in moist, shady spots, and if the shade is so that the sun's rays only at any time partially penetrate and the soil is good, then this fungus is seen at its best, and half a dozen specimens will furnish an excellent and appetising meal. I have it every morning all the time it is procurable. It is much more digestible than the common Mushroom, and many unable to eat the latter will find no ill effects from the tall variety. Popular prejudice, however, runs strong, and those who partake are regarded as doing so at the risk of their lives, with the result that in districts where this *Agaricus* is fairly plentiful, those who like it have little difficulty in always obtaining a supply. I write fairly plentiful, never as yet having lived in a district where it was found in any great quantity. A very considerable amount of liquid comes from it in the cooking, leading one to infer that if grown largely it would be very useful in furnishing material for catsup.—E. BURRELL.

Winter Lettuces.—A novel method of growing Lettuces for winter was brought to my notice last year, and as the results obtained surpassed anything I had ever before seen in the way of winter Lettuces, the means of obtaining them may be of interest. Seed was sown in the usual way early in the autumn, the plants when large enough were pricked out into cold frames, using as soil nothing but pure leaf-mould, in which they made rapid progress and hearted in beautifully, keeping up a full supply of well-blanching hearts all through the winter and early spring months. These Lettuces found a ready sale at 4s. per dozen and were well worth the price obtained.

The treatment given was to exclude all air from the time the hearts commenced to form, the result being tender and succulent growth throughout. All the care they had was to protect them from frost by matting up the frames when necessary. I have no doubt that the variety of Lettuce grown had much to do with the success. Unfortunately, I cannot say precisely what it was, but it appeared to be intermediate between the Cos and Cabbage varieties, the leaves pale green throughout, and it much resembled a variety which I have seen exhibited under the name of Paresseuse. A few plants which I obtained from the grower and potted up have seeded, and I hope to be able to try it another season. The grower was, I believe, for some time in market gardens in the neighbourhood of Paris, where he appears to have made a special study of the cultivation of salads, and he is now adopting, very successfully, similar methods at home. He saves his own seed of this particular variety of Lettuce and, to get it, grows his stock plants in pots where they can be protected from rain, as he finds those grown in the open very uncertain in the matter of seed production.—J. C. T.

GROWING ASPARAGUS.

PLEASE give me the fullest instructions for treatment of Asparagus beds for the year. Is fish manure a safe thing to use?—J. ARDEN, Fulbrook, Barton-under-Needwood.

* As regards the treatment of Asparagus beds for a year, much depends on whether the beds are old or young, the soil light or heavy, and the strength of the plants. It will not answer to give strong fertilisers in the shape of nitrates or even fish manure and guano to weak seedlings. A well-made bed will need little food for the first two or three seasons if the plants are obtained from seed. Much better results will follow irrigation if the soil be light. Many often make a mistake in heaping large quantities of manure on the beds at this season of the year. I do not advise it even with the lightest soil, as when the plants are at rest they are unable to absorb the food given. As much depends on how the beds are made, it will not be out of place to refer to the same. The best plants I have ever seen in this country were grown on the flat in rows. The land was deeply dug and plenty of manure used. The plants never received any attention from October to March, but during growth they were well fed, and a system of irrigation could be effectually carried out in dry seasons. Sowing is done in the spring. The seedlings will not need much attention other than thinning and cleansing. Thinning is an important detail, as unless the work is done thoroughly there will be a crowded plant. I have seen Asparagus sown like Mustard and Cress, and when finally thinned there have been a dozen plants where one would have sufficed. The culture of the plant the second year is simple. It may be necessary to thin again here and there if the plants are doing well, and a light top-dressing of manure may be given between the rows. This is more in the way of a mulch to encourage surface roots and retain moisture than as food. The third year cutting will commence, but not much, and the same remarks hold good as regards mulching. Liquid manure, if it can be given, is the best food. When seedlings are purchased or grown for planting, they may be one or two years old. For such plants the soil is well prepared. The first year no food is necessary, but after planting, if light manure of any kind can be given as a mulch it is most beneficial. In light soils the mulch is a necessity with young plants.

If the kind of soil had been stated this would have helped considerably. Feed from May to September, as this is the time the plants benefit by the food given. In light soils a dressing of sulphate of potash given at the rate of 2 cwt. or even 3 cwt. per acre is an excellent fertiliser, and a dressing in the early autumn will be well repaid. Sulphate of potash is an excellent food to mix with other manures

such as guano and fish manure. Guano by itself is an excellent fertiliser. This and fish manure are best applied in showery weather, as the moisture washes the food to the roots. There is no better food for Asparagus than fish manure, but I prefer to mix it with potash or sulphate of lime. If used, say, from May to the end of August, you cannot have a safer manure, but in dry weather near dwellings it is offensive. To remedy this I mix it with soot or lime and rake it into the surface. Fish manure may be used at the rate of 3 cwt. to 5 cwt. per acre, or 1 oz. to 2 oz. per square yard. A dressing of fish manure given once a month will suffice—I mean during the growing season—and in dry weather if watered in it is an excellent food. At this season of the year I dress heavy soil with the following: Fish manure, one half; road-scrappings and burnt soil or refuse the other half, with a liberal quantity of bone-meal. In the summer, too, such a mixture or liquid manure may be given freely. In heavy soils, salt must be used very sparingly. No one can go far wrong in irrigating freely, as Asparagus delights in moisture and frequent supplies of food.—S. M.

ORCHIDS.

PLEUROTHALLIS.

ALTHOUGH a very large number of species are included in this genus, but few of these are grown in gardens, or, indeed, known. They have been introduced and passed in and out of cultivation time after time, but the average Orchid grower knows nothing of them. Very few are included even in the best collections, and one may enter a great many places without seeing a single plant. It is a pity that some at least are not included in present-day collections, for the flowers of many of the species possess in a marked degree the delicate beauty and quaintness of form that have all along made the family so popular. As an instance take the Gnat Orchid (*P. Barberiana*). I have had this delightful little plant in baskets suspended from the roof in the cool house with spikes about 6 inches long, but quite invisible at a little distance, and if the basket containing the plant was jarred or shaken, the flowers resembled nothing more than a cloud of gnats hovering about the basket. If the basket is set in a slight draught, the dancing motion of the flowers is kept up, and the illusion is complete.

Many other interesting kinds might be named, but not much good would be done by describing them, for in the first place they are but little known, and, again, a description of such plants is always unsatisfactory, and conveys no real conception of what the flowers are really like. As to their culture, they may be grown by anyone who will give a little attention to their needs, and if interested in this class of plants no one will regret taking up their culture. The majority are purely alpine species, occurring at altitudes varying from 10,000 feet to 12,000 or more feet, so, unless in exceptional cases, all may be grown in a cool house, such as is usually advised for Masdevallias of the showy-flowered section and *Odontoglossums*. Being of a dwarf, tufted habit, anything in the way of atmospheric checks must be carefully avoided, for these are sure to bring insects in their train, and an attack of thrips to such tiny plants means destruction if immediate means are not taken to clear them off. A mistake often made with cool Orchids of this class is throwing the house wide open in the middle of a summer day. Nothing is gained by it; the atmosphere loses all the moisture and gets as hot as possible. Ventilate freely in early morning and again in the evening, leaving a

good amount of bottom air on all night. This is far better, for the atmosphere is always fresh, and then to keep the moisture in in the middle of the day, take most of the air off and shade as heavily as possible. Of course, damping of the stages, floor, and even the plants themselves must be freely indulged in, for with the temperature outside standing at about 30° higher than we want inside, no amount of atmospheric moisture can do any harm.

As to the winter treatment, just the opposite conditions prevail. In their mountain homes, day and night are more nearly equal through the year, owing to the proximity of the equator, and consequently under cultivation the plants miss the long daylight, pining in our dark, dull winters for the long sunny, though cool days of their native haunts. The best we can do is to keep the glass roof clean inside and out, allow as much air as possible without unduly lowering the temperature and water the plants with care, according to their lessened needs. At no time must anything like drying off be practised, only a reduced supply when the conditions outside and the small amount of growth going on render this necessary. The compost required for *Pleurothallis* is very much like that *Masdevallias* and other alpine Orchids thrive in, a thin layer of Sphagnum Moss and peat over efficient drainage, with plenty of finely-broken particles of crocks and charcoal for the roots to take hold of and to ensure aëration, suiting them well. Always repot the plants before they get into really bad condition, or they may be checked badly and take a long time to get over the disturbance. Rather small pots are usually advisable, as the habit is mostly tufted, and in the majority of cases the roots are small and not able to occupy a large body of compost. If there is a margin of half an inch in the smaller and an inch in the larger pots around the outside of the plants, this will in most cases be ample for their needs. H. R.

Cypripedium Regina.—This hybrid is extremely rare—unique, in fact, there being only one plant in existence. Its parents are *C. Fairianum* and *C. Leeannum*, and it is so clearly intermediate between them, that its parentage may be guessed at a glance. The drooping petals, which show the *Fairianum* influence, are whitish, shaded with green and lined with shades of brown. The staminode has a deep apple-green area, which is repeated at the base of the dorsal sepal and in feathery veinings higher up. The upper part and the spotting are more like *C. Leeannum*. The labellum is greenish and brown, the open part of the throat being spotted with reddish brown. It was raised by Mr. Seden in Messrs. Veitch and Sons' nursery.

Cypripedium Arthurianum.—The influence of the seed parent of this hybrid—*C. insigne*—is so plainly apparent, that one is somewhat apt to look upon it as a variety of that species, though a glance at the petals shows the pollen parent to be *C. Fairianum*. The colour and the shape otherwise are almost exactly those of *C. insigne*, the spotting on the sepal and the colour of the labellum all being similar. It is a beautiful and distinct plant notwithstanding, and a fine specimen of it carrying seven flowers I noted recently in the Cambridge Lodge collection. It is not often so fine a plant is seen, for not only is it flowering freely, but it is also in the best of health. *C. Arthurianum* is not a particularly strong grower, yet it is free and not difficult to keep in health if healthy when received. *C. Arthurianum* first flowered in 1874.—H. R.

Vanda Sanderiana.—I have previously noted the desirability of cultivating this species in baskets so that it may be suspended from the roof, thereby enabling it to obtain the maxi-

mum amount of light. Especially during the autumn months, when the flowers are expanding, is this advisable; it adds substance to the flowers and intensifies the colours. It is also a safeguard against the ravages of cockroaches. These troublesome insects are particularly fond of the flowers and roots of this species, and every endeavour must be made to prevent their reaching the plants. This species grows and flowers freely suspended from the roof of the East India house in Mr. Cobb's collection at Tunbridge Wells. I recently saw a plant there with five spikes and fifty-one expanded flowers. Two other large plants gave promise for a fine succession of bloom.—H. J. C.

Lælia monophylla.—This dwarf-growing Lælia does not receive the attention it deserves. In the late summer and autumn months, when flowers are scarce, it is most useful. It will grow and flower freely even under the unfavourable atmospheric conditions of London. It does best in the cool house through the warm summer months, and during the cooler months of the year it is best removed to the cool intermediate house, where the temperature does not fall below 50° at night. It should be grown in baskets or shallow pans suspended from the roof. The compost required is good fibrous peat and Sphagnum Moss in about equal proportions. To this may be added a liberal sprinkling of finely broken crocks. It requires an abundant supply of water during the growing season, with only sufficient to keep the growths in plump condition during the long resting season, which usually lasts from October to June. The flowers are rich orange-scarlet, each upwards of an inch in diameter, the growths from 8 inches to 10 inches long. It is an interesting species, being the only Lælia that is not found on the American continent. It is a native of St. Andrew's Mountain, in Jamaica, and first flowered at Kew in 1882. It is, therefore, practically of recent introduction. The species has never been plentiful, and I have no doubt it is to a great extent owing to its not being better known that it is so seldom met with in Orchid collections. I recently noted a finely flowered plant in one of the cool houses at Dulcote, Tunbridge Wells, where Mr. Walter Cobb has now removed his collection.—H. J. C.

MASDEVALLIA TOVARENSIS.

FEW white-flowering Orchids are more useful for cutting than this Masdevallia, a proof of its great utility lying in the fact that many florists with a demand for choice blooms grow it in large quantities. The flowers are of the purest white, without a spot of any other tint, and very freely produced when the plants are strong and healthy. As a rule, if the flowers are wanted in quantity the spikes are cut entire, but if the individual flowers are taken off and wired the spikes push others in subsequent years. I have heard it said that this makes no difference to the amount of bloom produced, that the flowers push fresh stems more freely when the older ones are taken out, but I can hardly credit this, and wherever possible, I should prefer to leave the spikes intact. During the growing season and all through the summer and early autumn the plants can hardly be kept too cool. They should be grown in a house well shaded from the rays of the sun, and overhead as well as atmospheric and root moisture must be very abundant. Any slackening of either is sure to result in a check to the plants, and may possibly bring on a bad attack of thrips, one of the worst insect enemies to cool Orchids. When the flowers are forming, it may be necessary to give a little more warmth, and when fully expanded a drier atmosphere is very necessary, or the fragile delicate beauty of the blossoms is soon spoilt. The winter temperature ought not to fall much below 50°; this is quite safe, but no less should be the rule, though a degree or two less on very cold nights may be preferable to forcing the fire-heat unduly. Regarding the compost, a thin ayer of

Sphagnum Moss and peat over good drainage is all that is required, and I like to see the former growing freely about the base of the stems, this keeping them cool and moist and being a good index to the state of the roots for moisture. Repotting should take place about once in two or three years, this being quite often enough if properly done. While not disturbing the roots more than is absolutely necessary, be careful that nothing in the way of old sour compost is left behind, as this will soon spread to the healthy part and fine down the whole. This class of plant is better not too much elevated; the base of the stems keeps moister and it is easier to water them when only slightly raised above the rim. I always use the syringe for moistening this class of plant, forcing the water through a fine rose being much preferable to using an ordinary spouted can. Should thrips at any time put in appearance, lose no time before vaporising the house, and if time can be spared the plants should be carefully sponged afterwards. This latter is the only course likely to succeed in getting rid of the white, soft scale that frequently attacks this species. *M. tovarensis*, as its name implies, is a native of Tovar, in New Grenada, where it was discovered in 1849. It was for a very long time rare in cultivation, but about twenty years ago it was reintroduced in quantity by Messrs. Hugh Low and Co., since when it has been plentiful.

ODONTOGLOSSUM SCHROEDERIANUM.

IT is a pity that De B. Crawshaw did not give readers of THE GARDEN fuller details of the history of the two plants which have certainly existed under the name of *Odontoglossum Schroederianum*. It is very questionable, judging from the report in THE GARDEN of the first plant exhibited, if there are not three under that name. Particulars as to how these complications arose can be easily traced. Reichenbach in *Gardeners' Chronicle*, May 27, 1882, p. 700, gives the original description. This description appeared in Messrs. Veitch's "Manual of Orchidaceous Plants," with an additional foot-note to the effect that they had not seen the plant. The Royal Horticultural Society's "List of Certificated Plants" gives the information that *Odontoglossum Schroederianum* has been twice awarded a first-class certificate, the plant on each occasion coming from the collection of Baron Schroeder. The first time was on January 13, 1885. This is described in THE GARDEN report of that meeting as being an *Odontoglossum crispum* of the *O. c. guttatum* section. The second plant, exhibited on September 13, 1887, is described in THE GARDEN as belonging to the *Odontoglossum leve* section. Judging from other reports of the meeting, there can be little doubt that the plant was none other than *Miltonia Schroederiana*. *Miltonia Schroederiana* was figured as *Odontoglossum* in Williams' "Orchid Album," vol. ix., p. 382, and in Sanders' "Reichenbachia," vol. ii., p. 96. Though Veitch's Manual points out the confusion that existed when referring to *Miltonia Schroederiana*, the author of the above work does not further clear up the matter.

The first *Odontoglossum Schroederianum* is described by Reichenbach as being a supposed hybrid between *O. tripudians* and *O. Pescatorei*. Surely this could not have been the variety exhibited by Baron Schroeder on January 13, 1885, which THE GARDEN report gives as being an *O. crispum* of the *O. c. guttatum* section. No one could possibly describe a hybrid between the above-named species as a finely spotted *O. crispum*. The second plant certificated (which is well to note, was only a little over two years after) was undoubtedly what I referred to as *Miltonia Schroederiana*.

Here is where the muddling of the two species occurred. What excuse can the exhibitor attempt to set up for showing two such widely different plants and getting them certificated under the same name? I have no doubt the blame lies with the committee of the Royal Horticultural Society in awarding certificates under

the above conditions. The further facts that plants were afterwards figured, distributed by the trade, and up to the present day known in many private gardens under the name of *Odontoglossum*, led me to use that name in parenthesis after the word *Miltonia*. I think with this explanation it will be found that I had ample grounds for the use of the two names in the manner I did on p. 297. STELIS.

Cattleya labiata autumnalis.—The earliest flowers of this popular *Cattleya* opened the first week in October, while some of the later *C. Gaskelliana* were quite fresh and good. These are two of the most useful species, and the old *labiata* especially so. The colours of the blossoms are as variable as those of any other in the section, and it is an easily-grown, free-flowering kind. It may be grown in the usual *Cattleya* house temperature in a rough, open compost such as all these kinds delight in. If possible, the plants should be given new compost just after the flowers fade, as there is often a flush of young roots at that time.

Saccolabium curvifolium.—A spike of this pretty Orchid comes from "C. C." for a name. It is a useful little species, flowering at various times of the year, the racemes being erect, the blooms a bright red, though this varies considerably in different plants. The plant comes from high latitudes in the Himalayas, and under cultivation thrives in small baskets or pans suspended from the roof for choice. Plenty of air and all the sunlight possible without injuring the foliage may be allowed, and under these circumstances the temperature may read fairly high.

Promenæa stapelioides.—The flowers of this species are very singular in colouring, being on the sepals and petals a pale yellowish green, with markings of brownish purple. The lip has a purple lobe in the centre, the side lobes being somewhat lighter than the other segments but similarly spotted. It is sometimes described as a *Zygopetalum*, but is more generally met with under the above name. It thrives well in small pans suspended from the roof of an intermediate house and requires careful shading. It is a native of the Organ mountains and other parts of Brazil, and was introduced in 1830.

Odontoglossum elegans.—The better forms of this pretty *Odontoglossum* are worth taking every care of, for they are easily grown and very free-flowering. The origin of the plant is doubtful; indeed, it is very variable, and there can be little doubt that any suggestions as to its parentage can only refer to certain individual plants. The usually accepted theory is that it is the result of a wild hybrid between *O. cirrhosum* and *O. cristatum*, but there are signs of several other species in some of the forms labelled *elegans*. Whatever its origin, it is a useful and beautiful plant, thriving well in the coolest house and throwing up fine many-flowered spikes at various times of the year.

Dendrobium taurinum.—Few Orchids that are so strong as this species in their native habitat give so much trouble under cultivation. Collectors tell us that the stems of this species are considerably taller than a man, and that the racemes of flower produced are very large and vigorous, but such results are rare or rather unknown under cultivation. If we get stems a yard high and flower-spikes a foot long we are content, and it takes a deal of care to keep plants healthy and strong even at this. The species delights in ample heat and moisture and a light sunny position not far from the roof-glass. The baskets or pots should be of medium size only, and the usual compost of peat and Moss suits it well. The name *taurinum* was given it by Dr. Lindley on account of a resemblance to the forehead and horns of a bull in the twisted erect sepals and lip of the flower. The colour of the flowers is a greenish white, with lines of purple. It is an old inhabitant of our houses, having been discovered by Cuming in the Philippine Islands more than half a century ago and sent by him to Messrs. Loddiges.

FLOWER GARDEN.

GUNNERA MANICATA IN THE NORTH.

I HAVE sent some photos, taken in 1896 and 1897, to let you see the growth *Gunnera manicata* makes in one year. This year the largest leaf measures 7 feet 7 inches, and the plant is 7½ feet high, 17½ feet through, and 50 feet in circumference. It is planted in a garden and is not near water. All the protection I give it in winter is its own leaves cut off and reversed over the plant.

FANNY A. PIRIE.

Countesswells House, Aberdeen.

Carnations.—An inspection of Carnation layers made at different intervals along the border shows that, on the whole, they are extremely well rooted, and that despite the exceptionally dry time right away from layering until the beginning of October. This state of things, decidedly better

stated. The border on which the bulk of the layers will be planted is rather heavy, and I have, therefore, worked in a liberal dose of peat moss manure, arranging it evenly in the trenches and at such a depth that the roots of the plants will come into immediate contact with it. New varieties of whose hardiness I have had no personal experience always remain the first winter around the parent plants.—E. BURRELL.

Carpet plants for bulbs.—Where bulbs are established on hardy plant borders or have been planted this year it will be advisable to consider how best to carpet the ground, if this is not already done, so that bare patches are not in evidence when the flower and foliage of the bulbs are at an end. I have no liking for bulbs in such positions; even in small gardens other places can be found for them either in occasional corners in shrubberies, on bits of grass that are not clean shaven by the machine or scythe, or on borders mainly devoted to small coniferæ and shrubs both deciduous and evergreen, with which they asso-

ciated. The position of the grubs, if one was applied of sufficient strength to kill the grubs, the plants would also suffer from its effects, so that at any rate the remedy would be as bad as the disease. The only way is to examine the roots of any plant that you suspect to be attacked and pick out the grubs. The parent weevils feed on the leaves of Vines and other plants at night, being seldom, if ever, seen in the daytime unless disturbed, as they then hide themselves most carefully. If you for any reason imagine that your Vines or other plants are infested by these weevils, before it is dark you should lay white sheets or cloths under them, and then later on throw a bright light on the leaves. This will probably cause the beetles to fall; if it does not, give the plants a jarring shake and search them well. They may be trapped by tying little bundles of hay or dry Moss on to the stems, as they will hide in them.—G. S. S.

Hardiness of *Dracæna australis*.—Although it is not unusual to see *Dracænas* or *Cordylines* growing in the open air along the south coast in Cornwall, the Scilly Isles, and the milder parts of Ireland, people rarely trust them unprotected to the rigours of winter in more northerly situations. The species under notice, however, is one which seems capable of standing a good deal of frost—quite up to 20°—and this is a strong recommendation for a plant which will give a garden a sub-tropical aspect in the depth of winter. Quite recently I saw two nice specimens between 5 feet and 6 feet high planted out on the lawn at Mr. Worsley's, Mandeville House, Isleworth. These plants were originally obtained as suckers from a plant about 20 feet high, which had stood out in the north of England for many years, but eventually had its top and stem killed by 25° of frost. Mr. Worsley, who takes a keen delight in acclimatising all kinds of plants, is of opinion that *Dracæna australis* is practically quite hardy in all places south of the Tweed, although it would probably be advisable in severe winters to give a little protection to fine specimens.—JOHN WEATHERS.

CACTUS DAHLIAS.

My cultivation of Cactus Dahlias began with the arrival of Juarez, and as the breaks from it became distinct, so I added them to my collection until it became fairly representative, and in this paper I propose to give my experience of their qualities, with suggestions as to treatment, which may be new to a few readers.

Whites.—If Mrs. Peart be grown from old tubers in rich moist soil, well helped during flowering and shaded from the sun, a large number of perfect flowers will result, and it still holds with me premier place as a show flower and does not require much disbudding. If Mrs. F. Fell be treated in the same manner (except that it is not needful to grow it from old tubers, as it gives fine flowers from spring-raised stock) and severely disbudded and tiffany screened, very exquisite flowers will result, and late in the season their form may be perfect. So far with me Keynes' White can only be described as a pretty little flower, very free and white, but lacking size and substance, and on fully expanding shows large yellow centre. This is the fault of Mrs. Peart not infrequently, never of Mrs. F. Fell.

Yellows.—Lady Penzance so far has no competitor.

Dark velvet crimson.—Matchless still retains its place in the first rank, and never goes wrong.

Cerise.—Cycle leaves nothing to be desired, and can hold its own as a bedding Dahlia or for single specimens in borders grown as a standard; quite one of the best.

Orange-vermilion.—Starfish with its perfect form is an ideal flower, and should be freely grown and disbudded.

Pure orange.—Francis Humphreys alone represents this very telling colour; the flower is coarse, but until we can get an orange Starfish we may



Gunnera manicata in an Aberdeenshire garden. From a photograph sent by Miss F. Pirie, Countesswells, Aberdeen.

than I anticipated, is doubtless owing to the fact that they are on a north-west border and so screened from very hot sun, and also that in the early stage they were thoroughly well attended to in the matter of water and never allowed to get dry. I have debated whether to shift them now from their present quarters to the position they are to occupy another season or to wait until early spring, and I have decided on the latter course, except in cases where clumps are required to complete new planting arrangements on herbaceous borders. For the latter purpose I have picked out Countess of Paris, Raby, White Clove, The Pasha, and Murillo as representing the sturdy, free-flowering section with blooms borne on short, stout stalks. Hayes' Scarlet, King Arthur, and Mrs. Macrae are all superior to Murillo from a purely flower standpoint, but they are much longer in the stem, requiring considerable attention in the way of staking and tying. For the same reason preference is given to White Clove over Mrs. Eric Hambro' for positions above

ciate remarkably well. Where, however, bulbs are required on the hardy plant borders, the carpet plants may be added at the present time, among the best things for the purpose being the alpine Phloxes, Aubrietias in variety, Tufted Pansy Violetta and *Cerastium tomentosum*. Small plants of all these from cuttings obtained in their different seasons will now be available, and if the soil is pricked up, taking care not to disturb the bulbs, the tiny plants can be inserted sufficiently close together so that at once they fairly cover the ground.—E. BURRELL.

Primulas attacked by larvæ.—My Primulas are being ravaged by larvæ, which eat through the stem just below the ground. I send you one of the creatures, and shall be very much obliged if you will tell me what it is and what steps we ought to take.—G. TOMKINSON.

* * The larvæ attacking your Primulas are the grubs of the black vine weevil (*Otiorrhynchus sulcatus*). I am afraid that it is of no use trying to destroy this insect with an insecticide, as from

rest content. It is a fine variety for standards, and does not require disbudding.

Mauve.—Beatrice has given me some beautiful flowers without disbudding, and forms a fine standard, but Island Queen, well shaded with tiffany, will next year take premier place.

Purple has only Earl of Pembroke, which requires very heavy feeding and does not require disbudding.

Terra-cotta.—Mrs. Wilson Noble has a lovely form and exquisite Pistachio nut colour. Countess of Lonsdale is supposed to be an improvement; but with rich culture, heavy disbudding, and generally skilful management, Mrs. W. Noble can hold its own.

Scarlet.—Gloriosa, which does not require disbudding, is even yet premier, although in Captain Broad we have a fine second. The charm of Gloriosa is its noble habit, and when grown as a specimen standard in the border it is a grand addition to the autumn resources of the garden. I have here to-day (October 22) several plants, one of which I measured for the purpose of this paper, there being little difference between them: Height 8 feet 7 inches, diameter through head 6 feet, carrying forty-six fine open blooms, innumerable buds, and fine foliage—a veritable tree. The value of these grand plants for long borders, grown and trained on twig supports, cannot be over-estimated. There need be nothing stiff or formal if attention be paid to the suggestions given further on. Supports are necessary, because at so high an elevation as 8 feet there is less protection, and wind is a serious enemy to the Dahlia.

Red.—Fusilier is a fine variety, of good form, free flowering, and nice in colour. It also can bear heavy disbudding and disbranching; its blooms are then very constant in form. I have not seen Lucius, but as it has received the premier prize for 1898 it must be accepted as a fine addition; so also Clown, among the fancies, a white-tipped red, and Fantasy, of an arachnoid shape, is very charming, but in Arachne we have reached nearly to perfection in form, colour, and habit. One of its decorative charms is its sporting, although very trying for show purposes. I have now plants laden with flowers, each carrying three or more varieties of bloom, so distinct in colour that they may be shown under separate names. The form of Arachne is very fetching, and when properly supported, as I shall show later, it is the most beautiful single specimen grown. Of the more delicate shades in combination, Bridesmaid is a fitting specimen, a pale primrose, mauve tinted, very beautiful form, and reliable all through the season.

Rose.—Quite the best rose in colour is a new flower, exhibited by Dickson, Chester—Mrs. Dickson. It is somewhat like Bertha Mawley without its blue tinge, and will improve in petal. It is a little flat at present. With Leonora, a finely-shaped flower of a peculiar crushed strawberry tint, I may close my list, only adding that in omitting a description of such as Sirdar, which displaces Harry Stredwick, I admit its beauty, and include it in my list of the best twenty-four. Necessarily the fashions and types change; therefore the old are displaced by the new, not that they are decoratively more valuable, but from a florist's point more desirable. In selecting three whites, I am guided by the knowledge of their fickleness. No skill can ensure perfect show flowers at a given time; therefore to meet all contingencies, grow three varieties, and plenty of them.

The cultivation of Cactus Dahlias is not difficult, the points to determine being—

1. Which varieties flower best from old tubers, which from pot tubers, and which from spring-raised cuttings?
2. How much, if any, disbudding and thinning is necessary for each variety?
3. How to protect and shade such as require it?
4. The best way to grow Dahlias for show, for beds, as single specimens.

The first question can be answered very shortly.

Experience alone can determine whether Dahlias will flower best from old tubers, pot tubers, or freshly-struck cuttings. Mrs. Peart only gives high-class blooms from old tubers, whilst Mrs. F. Fell flowers grandly from cuttings and pot tubers. The second question also is determined by experience, note being taken of what is required from the plant. Numerous small flowers are often of more value than three or four large ones. For show, size is an element of success as well as fine form, but there are varieties, such as Arachne, which form better show flowers with me if left severely alone. The third question as to shade and protection is largely a matter for the convenience of the grower, but it may be conceded "that all delicate tints with a rosy foundation will have the reds intensified if exposed to sunlight." Take Mrs. F. Fell as an example. You will note that earlier I advise the variety to be tiffany shaded. Do this and it is of exquisite purity; expose it to sunlight, and a rosy suffusion spreads through the flower.

I will not enter into the question of raising Dahlias, nor the soil necessary for their successful culture other than that, any ground suitable for growing good Potatoes should grow good Dahlias. The ideal soil is, of course, new good loam with effective drainage and plenty of top-dressing when dry, and some manure dug well into the soil some time before the tubers are planted. In growing Dahlias for show or to produce the highest class of flowers, it is advisable to place them in a plot of ground set apart, and convenience usually relegates them to the kitchen garden or an out-of-the-way ground. If this be done it is easy to protect them from winds, hot sun, or other Dahlia terrors by growing them in rows on lath trellis facing north and south, sufficiently, but not too close, and sowing all round the outside early Scarlet Runners on high sticks or trellis. You thus combine the useful and the ornamental, each row shading and protecting the one behind it efficiently. Add to this tiffany over those requiring such special care, and nothing more in the way of shade or protection is necessary, but the enormous evaporation from such an expanse of foliage requires continual moisture round the plant, and this is best supplied by heavy mulching (not necessarily manure) and, at least in dry weather, a daily watering, not forgetting to stir the soil and give liquid manure three times weekly when the flowers are beginning to form. For beds and borders where the natural beauty of the plants should be a first consideration, use strong hazel pea-sticks regulated to the height of the plant as it grows, commencing with branching twigs and adding more and taller until the plant when fully grown is supported by a framework invisible, but perfect. It is a revelation to see a variety such as Arachne find its way through and completely hide every vestige of a forest of Pea sticks, arranging itself naturally and defying rain and wind. Unless your stakes are very well put in, a central support gives stability and may be used if your plants are much exposed to wind, and your Pea sticks may be caught together with a little string and fastened to the central stake. If it be desired to grow fine single specimen plants on lawns or borders as standards, select one of the tall, strong-growing varieties, of which a list is given below, and, starting in heat an old tuber, plant it out as early as possible, training to a stout stake a single shoot only and removing all root suckers. Then pinch off all side shoots, keeping only the main stem, and at the desired height, say 5 feet, permit side shoots to grow, carefully tying these to Hazel twigs attached to the central stake. A head may thus be formed of sufficient size, and carrying for three or four months a numerous and beautiful collection of choice flowers. With a plant such as this special preparation should be made for its reception, a hole previously dug, heavily manured, and good loam if procurable added. Plenty of water when dry and liquid manure freely given will ensure a continuous blooming of exceeding richness and beauty.

Below is a representative list of Cactus Dahlias, comprising the choicest at present in cultivation and a selection from them of those best suited for training as standards.

Names.	Colours.
Mrs. Peart	White.
Mrs. F. Fell	
Keynes' White	
Lady Penzance	Yellow.
Matchless	Dark maroon.
Cycle	Cerise.
Startish	Orange-vermilion.
Francis Humphreys	Orange.
Beatrice	Mauve.
Island Queen	Purple.
Earl of Pembroke	
Mrs. Wilson Noble	Pistachio nut colour.
Countess of Lonsdale	"
Gloriosa	Scarlet.
Captain Broad	"
Fusilier	Red.
Lucius	Light scarlet, shaded carmine.
Clown	Red, white tips.
Fantasy	Red.
Arachne	White petals, red edge.
Bridesmaid	Primrose, mauve tipped.
Mrs. Dickson	Bright and pure rose.
Leonora	Crushed strawberry.
Bertha Mawley	Rose, bluish tips.
Iona	Buff.
Sirdar	Crimson-maroon.
Harry Stredwick	Very rich maroon.

FOR STANDARDS.—Gloriosa, Iona, Beatrice, Cycle, Francis Humphreys, Keynes' White possibly, Startish, Fusilier.

Old Parsonage, Garsford.

P. H. MULES.

Erodium guttatum.—This species has now been flowering continuously for several months, and still the slender spikes may be seen emerging from every growth the plant contains. The flowers which are white and blotched with a dark spot in the upper petals after the manner of those of some species of *Pelargonium* are numerous on every spray, and scarcely a day passes but a few fresh blossoms expand. The plant is best suited to the rock garden and is of a neat, attractive habit.

Yucca recurva.—This is probably one of the most graceful and attractive Yuccas in cultivation, and is also known under the equally appropriate name of *Y. pendula*. For lawns, vases, or the central figure of a bed it is probably unrivalled. The beautiful straight sword-shaped leaves are at first more or less erect, but with age they gradually assume a graceful drooping habit, which is in fine contrast to the young erect ones in the centre. In addition to the grace and symmetry of the foliage is the soft sea-green colour, with a beautiful glaucous hue on the upper surface. Grown in good soil and in a sunny situation *Y. recurva* soon becomes very symmetrical in outline and at once arrests attention.—JOHN WEATHERS.

Permanent beds of fine-foliaged plants.—Three at least of our hardy trees readily lend themselves to the formation of these, for if the Stag's-horn Sumach, *Paulownia imperialis*, and *Ailantus glandulosa* are planted young and cut back close to the ground during the winter, they will on the return of spring push out several stout buds. Three or four of these may be left on each plant for a little, when if all but the most favourably situated one are removed it will grow vigorously, and produce leaves of a size unknown when the plants are given ordinary treatment. This same process may be repeated year after year, hence if a bed is planted with either of these subjects, it will with little trouble at least equal the tender sub-tropical plants that are so much employed during the summer. A characteristic illustration of a *Paulownia imperialis* so treated is to be found in vol. I. of THE GARDEN (p. 518)—T.

Galanthus cilicicus.—A number of people have a prejudice against the Snowdrops which come into flower in late autumn or early winter. They look upon them as unseasonable, and as

lacking the associations connected with the common Snowdrop. I should be one of the last to deny that the Snowdrop owes much of its interest to the legends and poetry which are inseparably connected with its appearance in the dawning of the year; yet I think we may well find a welcome for its precocious sisters, which brighten duller days when we can hardly avoid feeling that even a single flower in the garden is very precious. Thus I enjoy the first of the Snowdrops—*Galanthus cilicicus* (Baker)—which came into bloom here on October 27. I hardly expect that it will flower so early another season, but believe it will appear before *G. octobrensis* and the few others which generally open before Christmas. None of these are yet through the ground here, but the Cilician Snowdrop is fully open. It is more robust than some of the others. It differs from these (with the exception of *G. Elsee*) in the absence of the glaucous line down the centre of

useful for cutting. Single yellow Marguerites of small size are often very useful for cutting, and late in the season they are none too plentiful.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

October flowers in the open garden.—Borders and beds are now (middle of October) very gay. The following are amongst the best: *Lobelia Queen Victoria* is a glorious mass of colour rising out of a carpet of Tufted Pansies. Japanese Anemones are full of bloom, and from 3 feet to 5 feet high. Michaelmas Daisies in a dozen or more kinds are making a brave show. Marigolds never gave better returns. Pentstemons, too, are flowering freely. Dianthus sown in April are still gay, and the same may be said of *Phlox Drummondii* and white *Antirrhinums*. *Phgelius capensis* is very gay with its long spikes of Pentstemon-like blooms. In warm situations *Zinnias* are still gay. *Sternbergia lutea* makes a show with its bright yellow blooms

the smaller plants from a large lot, the best of which had already occupied a large bed. It is quite possible that such plants as this *Starwort* suffer greatly during transit. This would be especially the case where much leafage remained on the plants when packed, and naturally such things would take a long time to recover. So far as my experience is concerned, I have never had any difficulty in growing the plant in any of its forms, but at times, owing to the slugs, considerable mischief is done. I have not noted these have a fondness for particular varieties. Broadly speaking, I consider the alpine *Aster* amenable to cultivation in any good ordinary well-enriched soil, and in the light soil of this district (Hampton) I employ cow manure very freely when planting hardy things. The plant in question by its dwarf habit of growth would be grown in company with the dwarf alpine and other *Phloxes* and other such things, with no attempt in the least to specialise in respect to soils. This endeavour to imitate natural soils has doubtless been much over-estimated, and to a large degree is not needful in British gardens.—E. J.

NOTES AND QUESTIONS.—FLOWER.

Dahlia White Aster.—This pompon I find most useful. I am aware it is somewhat formal in outline. It is a most profuse bloomer, and a great recommendation to it is that it throws its blooms up on long foot-stalks out of the leafage. For cutting it holds a most important place. At the end of October it is giving me good blooms.—DORSET.

Mignonette Machet.—This Mignonette, even during the greater part of the long period of drought, continued to blossom most satisfactorily. Owing to the change to rainy weather, new growths developed and flowers were again plentiful. I have before me a vase filled with spikes of bloom, and should the weather remain open there is promise of a goodly display for some time.—D. B. C.

Sternbergia lutea.—If Mr. Arnott, who in your number of October 22 mentions with regret his inability to bloom this plant, will try the following plan, I think he will find it as successful with him as it is with me. Plant *Sternbergia lutea* in a narrow border fringing one of his hothouses; let the position be sunny and the soil light; never give any water artificially, or, at any rate, not until the foliage is showing well. In such circumstances I flower this Cape Crocus regularly, and it is now blooming alongside *Zephyranthes candida*, which grows like a weed similarly situated.—HERBERT MILLINGTON, *Bromsgrove School, Worcester.*

CHRYSANTHEMUMS.

THE CHRYSANTHEMUM RUST.

A good deal of attention is just now being given to the new fungoid disease which has attacked the Chrysanthemum. It is familiarly known as the "rust," as to the proper classification of which doctors differ, but which all the same seems to have created alarm in the minds of those growers who make the Chrysanthemum either a medium for trading or to win prizes by producing gigantic flowers under artificial conditions of culture. But amidst all this concern there is comfort for all those who like to have Chrysanthemums blooming in their gardens in the autumn, because it is authoritatively stated the rust does not affect plants naturally grown. It is only the pampered pets of the growers, those that are highly fed and rendered because so treated fit subjects for all fungoid attacks, that suffer. It seems only needful to observe natural conditions and the trouble is non-existent. When we grow Chrysanthemums in the open ground their primary requirements are plenty of room, fairly good deep soil, with which is incorporated in the early summer some ordinary manure. If it be desired later, some thinning of the blooms may take place, and Nature will not resent it. It may be



Gunnera at Countesswells, Aberdeen. From a photograph sent by Miss Pirie. (See p. 385.)

the leaves.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Anthemis tinctoria (Mr. C. E. Buxton's variety).—In spring, Mr. C. E. Buxton informed me that he had in his garden at Coed Derw, Bettws-y-coed, a seedling *Anthemis tinctoria* of unusually free-flowering habit which continued in bloom long after his other plants had gone out of flower. He very kindly sent me a plant so that I might test its habit under conditions different from those in his garden. This I have done as carefully as possible. The plant has had very few flowers cut from it and has been allowed to form seeds from its earlier blooms. Notwithstanding this, it has still a number of blooms open and buds in various stages of growth which give promise of flowers for a considerable time should the weather not become too severe. All my other plants of *Anthemis tinctoria* have been out of bloom for some time, and some have been cut over for late flowers should the season prove an open one. Mr. Buxton's variety thus gives every promise of being an acquisition, especially as the flowers are of good form and colour and very

against its green leafage. *Fuchsia gracilis* and *F. corallina* are full of bloom. Autumn Crocuses on the grass are doing well, and the white *Everlasting Pea* still gives a few flowers. To-day (November 1) I cut a good handful of bloom. Both *Salvia splendens* and *Betheli* are making the border gay in a warm spot. The same may be said of *Cuphea platycentra* and *Calceolaria amplexicaulis*. Dahlias are quite a show, and at no time this season have they looked so gay.—DORSET.

Aster alpinus.—With reference to these pretty Starworts, I would certainly advise Mr. Herbert Millington to forego the imported plants in favour either of home-saved seed or home-grown plants. When I stated that I regarded this as one of the easiest of all alpinos to cultivate it was no exaggeration in the least, as I have raised many hundreds of plants, and in quite ordinary loamy soil planted out edgings of the seedlings at least 120 feet long in a single line. This was so done more from economic reasons and the value of the beds wherein better things were planted. The plants thus lined out were

urged that Chrysanthemums outdoors give no winter bloom in the same way that plants do grown in pots specially for the purpose. That is so; but even then it is practicable to have plants that can be prepared for housing and furnishing bloom late if desired without violating natural requirements. Young plants propagated by cuttings from others that have wintered out-doors are, of course, quite clean and hardy. These may be grown on without forcing into strong plants of bush form, and be got into 8-inch pots, then may be plunged into the ground in an open position and thinly, being kept watered as needed, but not fed with artificial manures. The roots would run out of the pots into the soil. If the varieties so grown are naturally late bloomers, that may be left till the middle of October, and even then be stood in a block so that for a time they may be protected from frosts and heavy rains by means of a roof of framelights or oiled calico, then they can be housed later. Flowers in abundance from plants of earlier varieties may be had by growing some in the open ground, lifting them into large pots and standing them in a greenhouse early in October. If the early and late autumn-flowering varieties be also liberally grown, and a wonderfully beautiful selection of these can be had to bloom from August till November, how easy is it to have Chrysanthemum blooms of good quality abundantly produced for fully six months of the year without employing any expensive or artificial treatment, or of adopting a system of fattening that may be excellent for Cabbages or Rhubarb, but is most injurious to ordinary plants. It is not much to our credit as a nation that we should have elevated the Chrysanthemum into a description of fetish.

A. D.

CHRYSANTHEMUMS AT LEWISHAM.

THOSE who have visited Ryecroft know full well the floral treat in store for them at this season of the year when there are three large greenhouses full of flowering plants such as one could hardly expect to find within the smoky zone of the metropolis. Although situated in the south-east corner of London, visitors can now book to Hither Green Junction from any station on the South-Eastern Railway, and this is far handier to Mr. Jones's nursery than going to Lewisham Station, as of old. The Ryecroft Chrysanthemums are in finer condition than last year, when, unfortunately, a few weeks before the opening of the Chrysanthemum season Mr. Jones was unable through illness to personally superintend the finishing touches to his large and varied collection just when it needed his supervision the most. This year, however, will in a measure be a compensation, for we understand that troublesome pest the rust has put him to little or no inconvenience, and his flowers are certainly in a most promising condition. This is all the more satisfactory for another reason. Year by year the neighbourhood, which was not long ago very open and rural, is now being fast covered with houses, a fact that in spite of the Chrysanthemum being called a town flower materially increases the difficulties of cultivation, and places a grower at a disadvantage with his more favoured rivals who live far away in the open country.

We do not wish to make a mere catalogue of names, but it is difficult to deal with such a collection as this without mentioning more or less briefly many of the most striking and effective novelties, and of these we may say that amongst miscellaneous varieties from various sources the following are of a high order of merit: Chrysanthémiste Bruant, a big golden-chestnut-bronze Japanese incurved; Mme. Leon Feyerick, deep golden-ochre-yellow, with broad florets, forming a good Japanese incurved; Rayonnante, an exag-

gerated and finer Lilian B. Bird; Miss M. Donaldson, a true Japanese of a delicate shade of pink, pretty, but not over large; and Dr. Noel Martin, a creamy white Japanese. Others such as Emile Nonin, golden-chestnut incurved; Comtesse de Boulaincourt, yellow Japanese; Abbé Brosson, large white Japanese; Fleur de Lilas, pretty rosy pink, medium size, and a few more are not commonly met with, but deserve to be mentioned. The novelty-hunter may do well to keep a look-out for such as M. Caillebotte, purple-amaranth; Sita, Tatiana, a fine yellow; La Marcadion, incurved reddish chestnut and golden buff, upon whose merits it is perhaps premature at present to pronounce.

The seedlings received from M. Ernst Calvat during the past season or two comprise a grand looking incurved called Topaze Orientale, beautifully built, very deep in form, and of a pleasing shade of clear pale yellow. François Coppée is of a deep golden shade, with long florets. President Bevan, a noble flower of its type, is big and massive, with numerous narrow grooved florets, closely incurving, and of a deep golden-bronzy shade. Marie Calvat is rather rough and loose, a long petalled Japanese, colour white, faintly tinted. Le Grand Dragon is one of this season's novelties, very fine long florets, drooping, and of medium width, a rich golden-orange-yellow, faintly streaked with red. The green novelty, Mme. Ed. Roger, is curious, and Secrétaire Rivoire is a pale yellow Japanese. One of the noblest and best of Calvat's 1898 seedlings is M. Fitzer, a Japanese of great size and substance, the colour a deep rich pure golden-yellow. Mélusine is white, streaked purple, large, but not very taking, while the same cannot be said of General Paqué, which has flat recurving florets and is of a very pretty and distinct shade of golden terracotta. President Nonin is another somewhat similar in build and colour. M. Hoste is older, a large white Japanese, tinted purple.

Some of the colonial varieties here, as elsewhere, do credit to the raisers in the Antipodes, who seem to understand the kind of flower most likely to appeal to English tastes. Oceana, Australie, and Pride of Madford are all well known, and to them must now be added Chatsworth, a fine deeply-built Japanese, of pale pink; Mrs. H. Briscoe, a large Japanese with long florets, colour pretty rosy mauve, with reverse of silver; Miss Mary Underhay, one of the finest and best, and of a lovely shade of rich buttery yellow, an incurved Japanese; Beauty of Adelaide, long florets, colour rosy pink; Nellie Pockett, white; and Miss Vera May Fraser, a charming shade of golden terra-cotta, with a golden reverse. Very pleasing, but only of medium size, is the graceful pale pink Mrs. F. A. Bevan. Mr. Peter Keary, a Japanese with drooping reflexed florets and of a fine shade of velvety purple, reverse silvery, is also most attractive. A deep golden yellow sport from the well-known Edwin Molyneux ought to be a good thing judging by its present appearance, and for richness of colour, Royal Standard, a striking bright crimson and gold Japanese, is at once effective and rich. A few others of the best are Mrs. A. J. Baker, large and globular, narrow florets, curly at the tips, colour pure paper-white; Duke of Wellington, big, solid, and globular, a Japanese incurved, with broad florets of rich golden bronze; Mrs. L. Humphrey, large Japanese, colour pale primrose or canary-yellow; Lady Hanham, Mr. A. Barrett, quite distinct from Mrs. G. W. Palmer, the sport from Mrs. C. Harman-Payne, and several others in which, perhaps, individual taste will play a large part in allotting the position they should occupy hereafter.

It may satisfy some inquirers if we say that at Ryecroft there is an unquestionable difference in the two yellow Carnot sports. Both are grand blooms, but G. J. Warren is certainly several shades deeper in tone than the pale primrose-yellow of Mrs. W. Mease, which to our taste is by far the more chaste and pleasing. Mrs. W. Popham is big, solid, and substantial, a Japanese incurved, very deep in build, colour pale purple,

with silvery reverse. H. T. Wooderson, of the same section, is close and compact, colour bright deep rosy pink. In yellows, Lady Oporto Tait is large, and Mrs. Maling Grant, different in form, is deep golden buff, streaked bronze. Princess Charles of Denmark is golden yellow. Mrs. J. W. Barks is a fine bronzy yellow sport from Edith Tabor. Very deep in its own peculiar shade of shiny, glistening golden yellow is J. Hooper Pearson, a Japanese with rather broad grooved florets. Lionel Humphrey, of the Japanese type, is large, with flat drooping florets of great length, colour deep crimson-chestnut with a golden reverse. Robert Powell, Julia Scaramanga, and Vicar of Bray are but varying and deeper shades of the primary colour of our popular flower.

CHRYSANTHEMUMS AT SYON HOUSE.

THE collection grown at Syon may be regarded as among the most extensive, as it is indeed also representative. At the time of my visit—paid somewhat early in the hope of seeing the flowers at their best—a large number of the finest examples had been cut, yet ample material remained to show how well the entire collection had been grown. Happily, too, the dreaded rust has not as yet appeared, though, with praiseworthy frankness Mr. Wythes stated a few specks had been seen, and as quickly and promptly destroyed. Indeed, in the procuring of many novelties from time to time, and from varied sources also, he would be bold indeed who could aver so large a collection was absolutely clean. It may not be out of place to give a hint concerning a cultural item which Mr. Wythes regards generally with favour, not merely in the cultivation of the Chrysanthemum, but in various other departments also. It is the free use of soot water, in itself a safe and timely as well as more or less natural stimulant. This simple, yet too frequently neglected, stimulant is made part and parcel of the daily cultural routine, with results that are abundantly clear in the flowers. Weak solutions of soot water are employed for syringing from quite an early stage, and later applied also to the roots. So obvious is all this, that the virtues of the solution may be taken for granted; indeed, in another department a recent application on a splendid lot of Malmaison Carnations rendered the plants quite dusky looking. It will be remembered, however, that a "rust" so-called, in some respects similar, attacks the Malmaison section of Carnations, and the solution in this instance had been applied from a preventive point, and as there were some 2000 of these Carnations the picture of health, the value of soot as a preventive means, and not the cure itself, appears to possess weight. The Chrysanthemums grown at Syon number about 1500 plants, 1000 of these bearing from two to four flowers each, while the remaining 500 are grown as bush plants for late bloom. The whole of the plants are in 10-inch pots, and in the abundance of fine foliage alone there is ample proof of careful daily attention. The collection, itself rich in the novelties of recent years, is equally rich in the tried older and still indispensable flowers, while it is replete with good kinds that are of known value for forming bush plants and for providing a lasting display of flowers. In so large and representative a gathering it will not be possible to name even a small proportion of the kinds grown, so that a few of the more conspicuous at the time my notes were taken will suffice. Many kinds, even of the large-flowered forms, were not sufficiently advanced to form an opinion concerning them, a fact which may be taken into account. Three of the finest white kinds, Beauty of Exmouth, Avalanche, and Elaine, were in strong force, and as a trio among early whites very difficult to beat. As previously noted, hundreds of the finest flowers have been cut, yet of the first-named there were examples that could scarcely be surpassed. Another white, evidently a favourite here, is the white Louis Boehler. These with Mme. Carnot are among the chief of the white kinds, and each represented by batches of hand-

some, well-proportioned flowers. Very strong, too, is *Pride of Madford*, the foliage especially good, and each plant bearing a full complement of blooms of this striking colour. The newer variety *Australie* was grand in the extreme and will take a lot of beating in this way. The peduncle of this kind is wonderfully strong. A splendid lot of this, with violet-amaranth shade and silvery reverse, told its own tale. Yellow and golden yellow shades were well to the front, such kinds as *Amos Perry*, *Phœbus* (new, one of the best finished flowers yet sent out), *Sunflower*, *Kentish Yellow*, *Oceana*, a most exquisite shade of colour, being in fine form. W. H. Lincoln was in plenty, but as yet not at its best.

Among the deeper shades, Robert Owen was most telling, the fine build and splendid incurring properties of this flower being seen to advantage. Charles Davis, Charles Molyneux, Comte de Germiny, Vivian Morel, Ada Prasse, H. Shoemsmith and General Roberts are kinds so generally well known as to need little description. Col. Smith was very fine. Mme. C. Champion, a beautiful lilac-mauve, very handsome; Mrs. Libbie Allen, fawn and bronze; Lord Brooke, Condor, flesh-pink and much esteemed here; Ada Spalding, Inter-Ocean, Charlotte de Montcabrier, lilac and flesh tint; Edwin Molyneux, Mrs. C. Orchard, Stanstead Surprise, very fine, and Charles Wagstaff, a most compact and well formed white, were among the best of the more advanced flowers. Mrs. H. Fowler, a grand yellow, was fast approaching its best, and is one of the many kinds of sterling merit to be found in this fine lot of plants. Many novelties are in a less forward condition, yet all give promise of a fine harvest of bloom.

CHRYSANTHEMUMS AT CHELSEA.

Those who regard the Chrysanthemum as peculiarly a town flower cannot do better than pay a visit to Messrs. Veitch and Sons' nursery in the King's Road, Chelsea. They will see there a very choice collection of well-grown plants, all of which have proved their fitness for cultivation in a neighbourhood surrounded by bricks and mortar. In some varieties, as might be expected, the deeper and richer tones of colour cannot under any circumstances be obtained unless the plants are grown in a more open and favoured position. In one house there are some pretty freely-flowered bush-grown plants for decoration, comprising such varieties as *Mlle. B. Vigny* (an old white), *Mabel Douglas* (yellow), *October* (yellow), *Comtesse Foucher de Careil* (golden terra-cotta), *Wm. Seward*, and several more. *Calvat's* seedlings are finely flowered, one of the best being *Louise*, which is big, massive, and of good substance. President Nonin, an incurved Japanese of fine form, buff-yellow, with a straw reverse, is very large. The rich golden-yellow *Amiral Avellan* is also of good size, and, like most from this source, helps to maintain the reputation of this well-known raiser. Werther, a deep rich velvety purple-amaranth, is fairly well-known, as also is *M. C. Molin*. General Paquié is another very large Japanese of a deep orange-yellow, shaded bronze, and having very long florets. President Borel and Mme. Gustave Henry need no description. One of the older sorts is *Mme. Marius Ricoud*, a very pleasing shade of deep rosy pink, and *Mme. Ferlat*, a finely incurved white variety of large size, leaves little or nothing to be desired. N.C.S. Jubilee, pale silvery pink, and *Souvenir de Molines*, orange-bronze, are also worthy examples of *M. Calvat's* skill. Miss Nellie Pockett, of Australian origin, is a very pretty Japanese, with a multitude of very narrow, grooved, incurved florets, pointed at the tips, colour pure white. William Towers is a large spreading flower, with long drooping florets of medium width, and the colour is very pure pale canary-yellow. The large white *Lady Byron* is in good form, deep and solid; so, too, are *Sunflower* and *Robert Powell*, both fairly well known. *Modesto*, the rich deep golden yellow American introduction, is very fine in colour and size.

Amongst the miscellaneous novelties of a few seasons ago received from the Continent *M. Aug. Lacvivier* is rather early, but of a peculiarly delicate blending of colour. Baron Hirsch, *Hairy Wonder* and *William Seward* are also noteworthy. Good whites are represented by Mrs. H. Weeks, Mrs. Chas. Blick, and *Mutual Friend*, while higher tones and varying in degrees of richness are *Octoroon*, *Royal Standard*, *Ethel Addison*, *Charles Davis*, and its parent *Vivian Morel*. *Descartes* in the Japanese *Anemone* section, deep rich velvety wine-coloured, is invariably good. Mrs. R. C. Kingston, a large pale pink incurved, is of fine build and very solid. Among other varieties that will attract attention, *Leocarie Gentils*, the pale yellow sport from *Enfant des Deux Mondes*, Mrs. S. C. Probin, Col. W. B. Smith, Mrs. Falconer Jameson and John Neville are worthy of mention.

NOTES AND QUESTIONS.

Chrysanthemum Snowdrop.—Some two years ago this was frequently met with in gardens, and I was pleased to see it again a few days since at Rousden, where it is grown in quantity, it being in demand for button-holes. It is about the smallest Chrysanthemum I know. It is late blooming, but the plants at Rousden that are in flower had been placed in heat to forward them.—DORSET.

Chrysanthemum Mrs. W. Mease.—No less than three trade growers exhibited this latest sport from Mme. Carnot at a recent floral committee meeting of the National Chrysanthemum Society. There is now not the slightest doubt as to its distinctness. Although described by the compilers of catalogues as a sulphur-coloured flower, this hardly meets the case. After carefully comparing the blooms with others of a pale primrose tint, this appears to be the more correct description of them. When contrasted with the other members of the family, viz., Mme. Carnot and G. J. Warren, the effect is particularly pleasing, the soft primrose of the sport being most pronounced.—B. C.

STOVE AND GREENHOUSE.

THE AUSTRALIAN SPEAR LILY.

(DORYANTHES EXCELSA.*)

This singular plant grows, in its native state, in one limited district of New South Wales, but fourteen years ago a small plant was brought from the Antipodes by Colonel and Mrs. Hill James, smuggled into Algiers, and placed in the lovely garden of the Rev. Edwyn Arkwright at Mustapha, on the hills overlooking the town and beautiful bay. Here it remained unnoticed until last year, when to the surprise of everyone, after this long period of rest, it threw out a stem which in the course of ten months attained the height of 9 feet, when the great bloom crowning the top began to open and continued in full flower from January to May of this year, a period of five months. It attracted much notice amongst the savants and French colony generally, and is probably the first instance of *Doryanthes excelsa* blossoming in the open garden on this side of the world. There are two varieties of this curious species—the one here spoken of, *Doryanthes excelsa*, and another of less grandeur called *Doryanthes Palmeri*, after a Prime Minister of the colony of Queensland, in which it grows.

Doryanthes excelsa produces a great crimson bunch of blossoms of the size of a large red Cabbage on the top of a straight Aloe-like stem, and the many Lily flowers of which this bunch is composed, each petal being about 5 inches long, open in succession, so that it remains in blossom for many weeks. As some of the

flowers shrivel and die off, others open, and expose the inside of the petals, which is of the most delicate rose-pink, shading into the purest white, whilst the outside is, as has been said, a deep crimson. This plant usually takes about seven years to blossom, but the specimen in Algiers has required twice that period to throw out its magnificent and gigantic bloom—this probably from its being moved to another hemisphere. It will now, if it takes the ordinary course, blossom again in about four years, for it does not, like the Aloe, die after flowering. Colonel and Mrs. Hill James made a journey to the Illawarra district of New South Wales for the express purpose of seeing this gigantic *Spear Lily* in its natural habitat, and they say that a more glorious sight than a view of this sandy table-land partially covered with the ever-present Eucalyptus and a profusion of these great *Spear Lilies* shooting up to 20 feet, their great crimson blobs showing amongst the decaying branches of the forest trees, could not be imagined, and richly recompensed them for their trouble on the journey. The Illawarra district, in which the *Doryanthes excelsa* grows, is above the Bulli Pass, some seventy miles from Sydney, and it was necessary to go first by rail, and then by a country coach to a ramshackle sort of auberge, where a sandy track turned off into the open bush. Here, after some trouble and delay, they managed to hire an old grey pony and a four-wheeled carriage, much too heavy for him, with decayed harness patched and mended with rope, in order to traverse the dozen miles or so of sand to the head of the pass. Many times the poor beast came to a standstill in the deep sand, for the day was hot, and they had doubts about the chance of reaching their destination; but at length the great red blobs of the *Doryanthes* began to show themselves amongst the lower branches of the forest in this wildest and most picturesque of Nature's gardens. Then they knew indeed that they had not made their journey for nothing. It was a unique sight which they recognised that they were never again likely to contemplate. Hundreds of these great red blobs in all stages of opening had projected themselves from their bunches of spiked Lily leaves, which grow round the root, up to the lower branches of the neighbouring great Gums, where they blossomed in wanton magnificence. Having feasted their eyes to the edge of night, the Colonel and Mrs. James descended the pass from the table-land and slept at a little wooden inn near the sea, and in the immediate vicinity of some of the valuable coal measures of New South Wales. On the following brilliant morning, their jaded pony being much recruited by his night's rest and food, they mounted the lovely Bulli Pass, which is one mass of Yuccas, Cycads, and great Tree Ferns, to the higher plateau, where the lady made a water-colour sketch of the *Doryanthes* on the ground of its own solitary choice. Six or eight of the flowers were cut down with a clasp-knife, leaving about 6 feet of stem, and taken a day or two later in the net of the railway carriage from Sydney to Melbourne, where they were exhibited at a flower show in the great town hall, and attracted much attention. The flowers of these cut plants lasted for six weeks in water. The stem is a porous reed about the thickness of a man's arm, and the crimson cluster at the top consisted of more than 100 blossoms in the plant at Algiers, the time occupied in throwing out the stem and bloom being about fifteen months. It is worth remarking that the *Spear Lily*, true to its native habit, began the opera-

* Extract from the "Bulletin Mensuel de Biarritz Association."

tion of blossoming at Algiers in January, the coldest month of the year, but, of course, the midsummer of Australia.

Begonia Moonlight.—I have not seen this useful variety for some years now, and I am afraid it is now entirely lost. It used to be grown extensively at the Royal Horticultural Society's Gardens, Chiswick, some years ago. It was raised by the late Colonel Trevor Clarke, and was one of the most distinct hybrids. I believe it was a cross between Dregei and one of the yellow tuberous varieties. It would make a fine companion for Begonia Gloire de Lorraine, being almost equally free. I never was able to seed it, though sometimes it had what appeared to be perfect female flowers. The foliage was of a rich deep green with a darker marbling, the flowers of a pale creamy white. I should much like to hear (through THE GARDEN) if anyone now cultivates this variety, as I am anxious to secure some stock. There are several other good winter-flowering Begonias which seem to have been entirely neglected since the advent of the tuberous kinds, which, though so showy in summer, are of little use for winter flowering.—H.

Bamboos in pots.—The fact that pot plants of Bamboos were used with considerable success at a late harvest festival leads me to suggest that they would be found very useful for church decoration at any time of the year when plants are required for the purpose; and, indeed, for any indoor work they form an excellent substitute for tall Palms in those places where facilities for acquiring and housing these are not available. If the purchase of plants for potting is not convenient, an inspection may be made of established clumps, and in the majority of cases the original plant will not only have developed into a dense, compact mass, but have partially colonised its immediate neighbourhood with clumps of smaller size alike in height and diameter, with growths varying from 2 feet to 5 feet or 6 feet in height. These are the clumps admirably adapted for pot work. They should be lifted carefully, not over-potted, receive a good soaking to settle the soil about them, and be kept always rather moist. I am writing of *Arundinaria japonica*, the only one at my disposal. There are doubtless others even better adapted for the purpose.—E. BURRELL.

Zonal Pelargonium Guillon Mangilli.—I doubt if there is a better all-round zonal than this old variety. It is a very reliable winter bloomer, and there is no trouble to cut good trusses from it from November onwards. For summer flowering it is excellent, producing large heads of bloom in great profusion all through the season if the plants when root-bound are occasionally fed with weak liquid manure. I have plants of it now in 8-inch pots carrying about two dozen trusses, and these have given me a lot of bloom for cutting from the middle of June, and will continue to do so up to the close of the autumn. For the flower garden it answers better than the majority of double kinds, not making such gross growth as many of them, the flowers resisting heavy rains fairly well. Cutting struck in April and grown along freely will make good plants in 6-inch pots for winter blooming, and one-year-old plants cut back early in May, shaken out a little when they break, and replaced in pots one size larger, will furnish a quantity of bloom during the dull months of the year.—J. C. B.

Carnation Mrs. Leopold de Rothschild.—This fine pink variety, which is also known as Mme. Thérèse Franco, has not proved quite such a profitable variety for market as was anticipated, and I find some growers are discarding it altogether. I never thought it would produce anything like the quantity of bloom Miss Joliffe does. It certainly is not a robust variety, and does not keep up a succession of bloom. I have known it since it was first introduced, but have never seen it better than it has been this season, ther in regard to growth, size of flowers, or colour,

thus showing that it is not so much inclined to deteriorate as many varieties are. I find that one great secret in keeping up a vigorous and healthy stock is to be careful in selecting the best plants for taking cuttings from. Those that are grown on from year to year for flowering in pots gradually get weakened, but if a few of the strongest plants are selected and grown on without allowing them to bloom, they will give strong, healthy cuttings which will give little trouble in propagating, and under good treatment increase in vigour. This, of course, applies to all the Tree Carnations that are grown for winter flowering.—A.

GERANIUMS FOR WINTER AND SPRING BLOOMING.

WITH the many and beautiful varieties of zonal Geraniums now in commerce, a house having a comfortable temperature can now be made very gay during the dull months of winter by specially preparing the plants for the purpose. For producing plants for winter blooming, the best way is to take stout cuttings in February. When rooted, grow them on as hardy as possible, shifting into 4½-inch pots before they become pot-bound, keeping them close to the glass and giving abundance of air. At the beginning of June stand them in a sheltered position in the open air on a bed of ashes, pinching the growths when of sufficient length, and assisting the roots with liquid manure as soon as the 6-inch pots, which will be large enough for the plants to flower in, are becoming pretty well filled with roots. A good fibrous loam and some coarse sand suit them well. Keep all summer trusses of bloom picked off, and remove into a temperature of 50° early in October. Their somewhat root bound condition will induce flowering better than larger pots at this season. Even during the winter a gentle current of fresh air must be given in open weather to prevent the plants becoming drawn. For the production of large quantities of bloom during April, May, and June, plant out spring-struck cuttings along the edge of a Peach house or vinery border, allowing a distance of 2½ feet between each and planting in a compost of good holding loam and a little leaf-mould and coarse sand. This mixture not only produces a short-jointed firm growth, but also allows of the plants being lifted in autumn with a good ball attached. Pinch the growths as soon as sufficiently advanced and train the plants by means of stout wooden hooks or pegs. Continue this practice till the end of August, never allowing the plants to suffer from want of water. About the middle of September well water the plants, and a few days later carefully lift each with as much soil as possible and pot firmly into 10-inch pots, placing in a frame and keeping rather close for a fortnight. When established in their new quarters, give plenty of air, and in October remove to a cool, airy position in the greenhouse, or even a cool vinery or Peach house. When growing freely in spring, assist twice a week with diluted liquid manure. Plants so treated will produce a plentiful and continuous supply of good trusses of bloom. It is best to throw away the old plants and raise a fresh lot every year. J. C.

Luculia gratissima.—This free-growing, sweetly-scented plant is usually described as a cool house subject, but to attempt to flower it without a certain amount of warmth only leads to disappointment. It will succeed either in pots or planted out, giving the greatest satisfaction in the latter position provided the border is well drained and the compost porous. Good fibrous loam and peat in equal parts, with a good quantity of charcoal and small pieces of sandstone, suit it well. A cold, dark conservatory is about the worst place to grow it in, the plant needing warmth to ripen the wood and for the development of the flower-trusses. A warm, sunny greenhouse or conservatory suits it, but the temperature ought not to fall below 50° at

night when the bloom-trusses are expanding in spring, or they are almost sure to fall. After flowering, the plants if robust may be well cut back, and when growth commences a fair number of the strongest growths only retained. More fail to bloom this plant through giving too little heat and light than from any other cause.—C. N.

Hoya carnosa.—Probably no plant in cultivation gives less trouble to grow well than this, though it is often seen in a flowerless and unsatisfactory condition through being grown in too much heat and moisture. As an ordinary greenhouse plant it is very satisfactory, and under these conditions I have it, growing pillar fashion, 10 feet or so up the front of a tall conservatory, the house being kept so cool during winter that it is no uncommon thing to have the soil frozen quite hard in the pots during severe frosts. This appears to have no ill effects, as I never saw plants flower more freely or have finer trusses than these do during the greater part of the year. Some of the old flower-stalks have been on the plants for at least fifteen years, and one can hardly say with certainty how long they will last, as it is only on very rare occasions that one finds a dead stalk. During the period mentioned these plants have only been potted once, and this seems quite immaterial to their health provided the drainage is all right. Their roots are confined to 9-inch pots, which are stood on the ordinary wooden stages, so that they have no chance of escaping into any soil but that contained in the pots. When they are potted the soil chosen is one half fibrous loam, one quarter peat, and the rest silver sand and broken brick in equal portions. Once in two years they get a top-dressing with similar material. A mistake made more often than it should be is the cutting off of the old flower-stalks after the annual flowering, thus destroying the chance of bringing the plants into a free-flowering state. Where this is done they are practically flowerless, as it is the old stalks which produce most of the blooms. During summer and while growth is being made water may be given with tolerable freedom, and occasional doses of weak liquid manure are enjoyed, but in winter the plants should be allowed to get dust-dry.—L. P.

GARDEN FLORA.

PLATE 1196.

HYDRANGEA HORTENSIA VAR. MARIESI.

(WITH A COLOURED PLATE.*)

THERE is now a considerable number of varieties of the common *Hydrangea* cultivated in our greenhouses, several new ones having been sent over by the Japanese nurserymen during the last few years, but the variety now figured is, I think, decidedly the most striking and effective. It was introduced from Japan about twenty years ago, and is one of the many first-rate plants sent home at that time by Mr. Maries when collecting for Messrs. J. Veitch and Sons. Although so considerable a period has passed since its introduction, it is only quite recently that it has come into notice. The first time I remember to have seen it was in May, 1897, at the Royal Horticultural Society's show in the Temple Gardens. It was exhibited again last year in fine condition, and was to my mind the most striking of the new shrubs in the show. It is like the variety *Otaksa* in having the centre of the truss filled with small perfect flowers, whilst a few only of the marginal ones are sterile. These are, however, far larger than in any other variety yet introduced, for they each measure 3 inches to 3½ inches

* Drawn for THE GARDEN in Messrs. Veitch's nursery by H. G. Moon, May 12, 1898. Lithographed and printed by J. L. Giffart.



across. The colour, too, is very pleasing, being a pale pink faintly tinged with delicate mauve.

This variety is as easily cultivated as the others. In the gardens of the south-western counties of England and Wales, where the common *Hydrangea* succeeds so admirably out of doors, it ought to become a very striking feature. If it should prove to be a little harder than the type (which is never killed outright near London), it would make a welcome and useful addition to our rather scanty array of autumn-flowering shrubs, but of that there is no evidence yet. As a greenhouse plant it will, no doubt, soon become as popular as it deserves. Messrs. Veitch are now sending it out.

The following is a list of varieties of *Hydrangea Hortensia* known here at the present time:—

Aigaku, flowers light blue. New Japanese variety.

Ajisai, rosy blue to light blue. New Japanese variety.

Benigaku, rose-coloured. New Japanese variety.

Shirogaku, white, blue centre. New Japanese variety.

Thomas Hogg, pure white.

Otaksa, flesh-coloured.

Nigra, stem black-brown (syns., *H. cyanoclada* and *H. mandshurica*).

Variegata, requires to be grown in warmth or on a wall.

Lindleyi (syn., *H. japonica roseo-alba*).

Acuminata (syn., *H. Buergeri*).

Stellata (with several sub-varieties).

Mariesi.

For a full account of the species of *Hydrangea* the reader may be referred to *THE GARDEN* for the latter half of the year 1896, p. 122.

W. J. BEAN.

THE WEEK'S WORK.

HARDY FRUIT.

LIFTING PEACH AND NECTARINE TREES TO CHECK ENUBERANT GROWTH.—This was alluded to some weeks back, as it pertained to trees under glass for forcing. It now applies with equal force to those outside, and if more of this work were done persistently from year to year we should hear less in all probability of gumming and other attendant evils, as gross wood of an unfruitful character. Some young trees which have filled their allotted wall space have this week been shifted to a greater distance apart, allowing from a foot to 2 feet more room between them. An old tree of doubtful endurance was first removed and room thus afforded for doing this. A check will thus be given which must under ordinary conditions result in a more fruitful state ultimately rather than rank growth. No fault can, however, be found so far, as the trees are bearing well but with a tendency to grow too strong. The soil being non-calcareous, more stimulating food has to be afforded to meet the deficiency, hence it will at times foster more strong wood than is desirable. When lifting these trees a few slabs are placed under each stem wherever there is any tendency to send roots downwards. It is a simple practice, but efficacious, depriving the trees of no beneficial plant food or moisture. Of course the trees so treated are watered freely afterwards so as to settle the soil, this being a better method of so doing than heavy treading.

FRESH PLANTING AND TRANSPLANTING.—Do not now lose any time in pushing this work forward. It is of more importance than starting thus early with the general routine work of pruning, however important that even may be. Take care, as afore stated, not to let the roots suffer from exposure or drought. Raspberries are a case in point, the fine fibrous roots of which readily suffer from exposure, more so possibly than any-

thing else that could be named. Give no quarter to bushes of Black Currants affected with the mite. It will not ultimately pay to endeavour to bring them round. Even the plan of cutting down half of the stock every year, if ever so effectual, has to be seriously weighed where room is valuable. The better plan is to destroy the plants by burning completely and then obtain a clean stock, which should be planted in another part of the garden. Black Currants, if good plants, will give a profitable return the first season after planting. To the list of names given last week should be added the following: Of Raspberries, Superlative and Hornet, Carter's Prolific being the next best, and of autumn bearers *Quatre Saisons* is the best when it can be had true. For the autumn also do not lose sight of the cut-leaved (or Parsley-leaved) Bramble. Of Black Currants, Baldwin's Champion and Lee's Prolific are two of the best, whilst of Reds, New Dutch, Raby Castle, Red Grape, and Late Rivers are the first choice, and of Whites the Transparent should be the choice. Of Gooseberries, the selection should be made of such as suit given localities as well as for special purposes.

HORTUS.

KITCHEN GARDEN.

AUTUMN VEGETABLES.—Most of the Brassicas are now of good quality and turning in freely, the much-needed rains of late having been very beneficial. On the other hand, I fear the supply of green vegetables in many parts of the country is none too plentiful, but in this district both runner and dwarf Beans are plentiful. This will eke out the autumn supply, and the pods will keep fresh a considerable time if, when of full size, they are gathered and placed in a cool store, the stalk ends in water, adding a little charcoal to the water to keep it sweet. The supply of Cauliflowers is now fairly plentiful, but it will be well to protect the heads if at all exposed, as frost soon discolours the flower. Several degrees of frost may be warded off by drawing the leaves together. I have rarely ever had Globe Artichokes at this late season. Up to now the plants have not ceased to form heads, and these, like Beans, keep a considerable time in water with a portion of the stalk attached. The Michaelmas Pea has just been cleared. This is a splendid variety for latest supplies, and although in very light soils, owing to heat and drought, late Peas have not been a profitable crop, this variety has proved one of the most reliable. It will be well to draw soil up to the stems of all late-planted Brassicas, as doubtless the growth will be very susceptible to cold. I find the late-planted quarters most valuable for spring supplies. I have only this week housed the first Seakale for forcing, and even now it is none too ripe. The early lots of Coleworts I note are this year splitting badly in consequence of the rain. These will be of little use, and should be cleared as soon as possible. Later plantings are looking well, and the batches of Hardy Green Coleworts planted in September will now benefit by being moulded up well to the leaves to protect the stems. Treated thus they often pass through the severest weather with little injury. The same remarks apply to all late-planted vegetables. These need a little more care than those to be cut before Christmas. Autumn-sown Onions will benefit by dressings of soot, and in light soil they will have a tendency to lift themselves out of the soil. This should be prevented by treading or firming the plants on either side of the row. Spinach growing away freely will need frequent hoeings, and will well repay for feeding in the way of soot or liquid manure.

MUSHROOMS.—With a lessening vegetable supply from the open ground there will be a greater demand for Mushrooms. So far I have had an excellent supply from beds in the open, the seasonable weather during the past month having been in their favour. Heavy rains will now need to be guarded against, as should the surface of the beds get saturated the spawn will cease to run freely. Many large growers keep up a supply from beds in the open till quite late in the year. The beds in the house will now be in full bearing if made

early in September. I find the best beds are those made a month later and from now there will be no trouble in maintaining a supply. My previous advice as regards beds and temperatures will still hold good, and those who have not plenty of material at command for beds will find it best to make small beds and more frequently. Beds under cover, as the yield decreases, will be benefited by a little salt in tepid water or liquid manure at a temperature of 100°. By covering the surface for a short time with warm manure new growth will soon follow.

TOMATOES.—The plants grown for autumn supplies have done well so far, but with a change in the weather it will have been necessary to use a little fire-heat to dispel damp. Very little moisture will now be needed for plants bearing fruit that is ripening; indeed, with fully-grown fruit I have found it a good plan to cut the plants at the base and place on racks, there being enough moisture in the stem to finish the fruits. It will now be useless to leave plants against walls that have fruits in any state. Small fruits may be made use of for pickling. Those nearly full grown will colour if placed on a shelf in a dry, warm place. This applies to all plants in unheated structures, as the plants will not be very presentable after November is in. It will be well to give fruiting plants in forcing pits more warmth, air being given freely in fine weather, with a little on the back ventilators at night. Should insect pests be troublesome, as is often the case with winter Tomatoes, it will be well to fumigate once a fortnight with XL All fumigator. Where there is a good set of fruit, it may be advisable to give fertilisers once a week, and any fully-grown fruits will ripen if gathered. This will assist later ones to swell more freely, as the plants will not set more fruits after this date.

WINTER CUCUMBERS.—So far I have not taken a fruit from the winter plants; I mean those to provide fruit from December till March. My autumn supply is given by plants grown specially for the work. On these there is an abundance of fruit, as the plants, if strong, crop freely. Plants in fruit should get regular supplies of food. I always cut the fruits as they mature, as they keep fresh some time in water at this time of year. In the case of winter fruiters a strong growth should be built up, encouraging abundance of roots, as without these there will be failure later on. Should the roots have filled the pots or root-space, it will be well to add turf or a top-dressing to keep the plants active. When the plants are allowed to fruit, only a limited number must be left. There must be severe thinning and attention to feeding with winter Cucumbers. It is well to lay in new wood even at this season or in midwinter, as the supply will soon cease if the wood fails. If the plants are now making wood freely, plenty of good fruit will be produced later. It will now be advisable to stop each growth. This will induce sturdiness, and as long as fruit is not allowed to set the plants will continue to make abundance of wood even at this dull period of the year. The temperatures must now be liberal. Strong plants with ample roots will do with less heat than often advised. Later on it may be well to give a few degrees more in the case of plants in full bearing. My fruiting plants are kept at 65° to 70° at night, those not bearing being kept a few degrees lower. At the same time there will be a great saving of fire-heat by covering the glass outside with mats or covers. I use Bentley's prepared sheets. These throw off rain and snow and keep the house quite 7° to 10° warmer. The day temperature should be 5° to 10° warmer than during the night, at the same time giving plenty of moisture. Regular fumigations are necessary. All water given should be of the same temperature as that of the house.

PREPARATION FOR FORCING.—With many, hard forcing is not a necessity, and the advantages are great, as by slow forcing much better material is secured. I am now busy clearing out the old material from between the Asparagus beds forced yearly, and filling in with fresh. This latter in

my case is . . . sh leaves only. These of course give less heat than fresh manure, but are more valuable, as they last much longer. Now is a good time to collect leaves, and if they cannot be used at the time of collection, if placed in bulk and turned occasionally they will be good for mixing with manure. Leaves used in this way are most serviceable, as they prevent violent fermentation, which is so disastrous. Those who need Seakale or Asparagus, say, in a month or six weeks' time, will need to adopt other measures to obtain a quick supply. Great benefit will follow preparing some of the plants for the work in advance of forcing. Few now force Seakale in the old way by placing pots or covers of some kind over the roots and filling in with large quantities of manure. This had its advantages, as if the heating material was slow it gave better flavour than lifting roots and placing in strong heat. Seakale for supplies at Christmas should now be lifted. This will force more freely if left out of the soil a few days, merely covering with a mat. From this date all the strong roots should be saved, cut into lengths of 5 inches to 6 inches, and placed in the soil. These make fine planting material next spring. Rhubarb will force much better if lifted a short time and exposed, and in the case of Asparagus this forces well taken from its growing quarters into heat. More warmth is needed now than later on. To maintain a regular supply it will be necessary to lift roots every three weeks. Asparagus forcing by lifting roots is an expensive process. S. M.

ORCHARD AND FRUIT GARDEN.

A VALUABLE WINTER WASH FOR FRUIT TREES.

FOR cleansing the stems and branches of all kinds of fruit trees from parasitic incrustations, scale, and the eggs of various insects, much experience has proved the efficacy and safety of a caustic alkali solution, of which the following is the original formula: For making a small quantity, dissolve half a pound of caustic soda in a gallon of water, then add half a pound of commercial potash (pearlash), stir well, then mix both to make five gallons of solution for use. Apply to large stems with a brush, to small branches and branchlets in the form of spray, either with a knapsack pump, or other appliance, when the trees are dormant. The formula was given to Mr. J. Wright a few years ago by Mr. Leonard Coates, a large Peach grower and nurseryman in California, and published in the "Journal of Horticulture." This led to experimental trials on different kinds of fruit trees in this country, and these proving completely satisfactory, the wash became extensively and systematically used by those fruit growers who had thus proved its efficacy. It was, and is still, regularly used in Californian Peach orchards as the best of all applications for destroying scale, which is there much more persistent in its attacks than in Britain; indeed, Mr. Coates remarked that he should find it extremely difficult to grow Peaches with any approach to satisfaction without spraying the trees with this caustic solution every year as regularly as they are pruned. It is applied at a temperature of about 120°, Fahr., and has been so used to Apple, Pear, Plum, and, in fact, all kinds of fruit trees in English gardens, as well as to Vines under glass, but it has since been found effective when applied in a cold state. The superintendent of the Royal Horticultural Society's gardens at Chiswick was one of the first gardeners to use this wash extensively in England, and he attributes to it not a little of his remarkable success in growing fruit for Mr. Lee-

Campbell at Glewston Court, Ross. He found this wash, applied in the form of spray, not only destroyed scale and polished the stems of the trees, but in the course of a year or two the red spider and all kinds of insects vanished, the result, he concluded, and doubtless with accuracy, of destroying their eggs.

Mr. S. T. Wright has since proved at Chiswick that the wash will destroy red spider, and at the same time its non-injurious character to the stems of Vines and trees to which it is applied. The small pest, yet great enemy, had taken possession of some Vines in one of the houses just as these were starting into growth in the spring. Though the Vines had pushed growths about half an inch long and the sap consequently become active, the bold step was promptly taken to brush the canes thoroughly (not the young growths) with the caustic solution, forcing it into the fissures of the bark. Not the slightest injury was done to the Vines, while the spider was completely destroyed, and the house has been free from the pest ever since.

Other testimony of the value of the caustic wash on fruit trees is recorded by Mr. H. H. Cousins, M.A., of the South-eastern Agricultural College, Wye, Kent, in his excellent little shilling primer, the "Chemistry of the Garden" (Macmillan). The trees there referred to have been seen both before they underwent the cleansing process and since. A worse case of insect-infested and Moss-encrusted branches could not easily be imagined, nor a better cure, for all animal and vegetable parasites had been swept away. Mr. Cousins reduces the pearlash somewhat and adds soft soap. This is probably a good addition, but the wash is no better for the reduction of pearlash, and probably not so good for destroying the eggs of insects. It is something to know, however, that it is not absolutely necessary to incur the trouble of heating the mixture to render it effective, as though the heating might be easily done in some cases, in others it might be inconvenient. In the case of possibly immature Peach wood it might be prudent to increase the water from five to eight gallons and note the effects before using the full strength solution.

Protecting the stems of early-forced Vines.—The necessity for thoroughly protecting from cold the stems of early-forced Vines where they come through the front wall into the open air was proved by an incident which occurred some years ago in Suffolk. A gardener who had a house of early Vines found on entering it one morning during severe frost that the foliage, which had grown to a considerable size, was drooping, and had a half-paralysed appearance. Being at his wit's end, he hurried off to a neighbouring gardener—a very practical man—and laid his trouble before him. His friend returned with him to the vinery, and after viewing the Vines went at once and examined the stems, which he considered were not sufficiently bound up for such severe weather. He advised pouring warm water on them and giving additional protection. This was done, with the result that the leaves soon began to recover, and in a short time presented their natural appearance, with no ultimate injury to the crop. Some gardeners, and I think it a good plan too, like to have a narrow border, say a couple of feet wide, inside the house in which to plant the Vines, allowing the roots to pass through arches into the outside border, thus saving the stems from exposure.—N. N.

Peach Marquis of Downshire.—At p. 273 "G. W." has a note on this Peach and recommends it for planting on open walls. "G. W." has not, he states, tried it under glass, but if he has space for a tree of it in a cool house I do not

think he will be disappointed. I referred to this Peach a year or two ago as being well grown at Kelham Hall, Newark. Mr. Webb, the gardener, has it on the back wall of an unheated Peach house, Royal George occupying the front trellis, and the situation being near the river and low, mildew often attacks the latter, but Marquis of Downshire always escapes. It invariably sets well, and as the fruit from these gardens is disposed of in the market the tree is allowed to carry as heavy a crop as possible. This it does year after year, and the flavour is good, even better, perhaps, than that of fruit grown outside. It is known at Kelham by the name of Royal Ascot. Has "G. W." ever given Desse Tardive a trial under glass? Both at Gunton and Blickling this Peach is thought well of as a late variety, a good-sized tree at the latter place having borne excellent crops of fine, well-flavoured fruit. I recollect Desse Tardive being sent out by the late Mr. Rivers, of Sawbridgeworth, and I was much impressed with the size and handsome appearance of some fruit growing on quite a young tree on the back wall of a Peach house near Brentwood. To my mind, it is one of the best flavoured of the late, somewhat thick-skinned varieties. "G. W." speaks well of the new late variety Devonian, and states that its quality is superior to that of Late Admirable. Grown under glass, however, I think the latter is of very good flavour. This Peach is very liable to be confounded with Walburton Admirable, a large late Peach of excellent quality.—B. S. N.

SOME MIDSEASON PEARS.

DOYENNÉ DU COMICE is becoming well known, and ranks as one of the very best Pears in existence. The fruits are of delicious flavour, fine in texture, large, and handsome. The tree makes healthy growth and ought to be planted freely on walls with various aspects in every garden, as it sometimes fails to crop on some of the trees while others are well laden. Even when all of them fruit together a glut will hardly be felt, as from the different aspects a succession may be kept up from October till nearly Christmas. Fondante de Thirriot is a handsome Pear which will doubtless be largely grown. Unfortunately, it comes in at a time when so many Pears are in season, for though it is called a November and December Pear my experience with it from a south wall, and with the fruits allowed to hang until they dropped of their own accord, is that it is ripe before the end of October. Possibly if grown on various aspects it might cover a long season, as the fruits keep well for a time after ripening and do not decay at the core. It is a very juicy fruit, sweet and pleasing, with no very distinct flavour. For exhibition it is grand, as the fruits are large, well shapen, and clean, pale green when growing and straw-coloured when ripe. Striking characteristics by which it may be readily recognised are the wrinkled base and the very long, medium-sized curved stalk. The tree bears freely and will carry a heavy crop. Another large and handsome Pear is Durondeau, an excellent cropper, the fruits of distinct but slightly rough flavour, well liked by many, but I cannot say that it is a great favourite here, and, except for market, not many trees should be planted of it in one garden, as I find its season rather short. It has something of the form of Beurré Bosc, being very long in proportion to its girth. Emile d'Heyst is a favourite during its season, which does not last long. It has a Banana-like texture, and in flavour and general appearance is very much like Marie Louise, but its form is more regular than in that popular variety and slightly fuller at each end. It is a handsome fruit when dished up, as the small eye stands out flush with the well rounded apex, and the rich golden brown hue is very striking. Princess is a first-rate Pear, also having only a short season. It is very much like Louise Bonne of Jersey, but fuller in form, not quite so long, and its season is later. The tree almost invariably crops well. One of the most reliable Pears grown by me is Conseiller de la Cour; this hardly ever fails to crop heavily, and

the fruits come clean and big. A certain roughness it imparts to the palate prevents it from being classed as a really first-rate Pear, but it has so many good qualities and lasts over such a long season without showing any tendency to decay at the core or to become sleepy that I find it an indispensable variety. In whatever form it is grown, it makes a very handsome tree, with pendulous, but sturdy branches and healthy leafage. J. C. TALLACK.

Apple trees unhealthy.—I shall be much obliged if you will inform me as to the best means of clearing in winter fruit trees which suffer in summer from a blight which shows itself in black blotches and patches on the leaves. A large proportion of the Apple trees in this neighbourhood has been badly affected this year, and trees of the hardiest sorts as well as delicate kinds have suffered. I generally use caustic soda from a sprayer two or three times during the winter, but this has not prevented the fungus coming, and I tried this summer the specific for Potato disease—lime and sulphate of copper, but without effect. Is it any use using some stronger solution during winter, or will the trees get infected from other trees and plants in the spring? I enclose some leaves gathered at two different dates, and shall be very glad if you can suggest any remedy. I am rather afraid of spraying the leaves early in the summer, as I have sometimes destroyed the leaves, although the solution was only of the recognised strength. This pest has during the past three or four years done very great injury to my fruit trees, of which I have nearly 1000.—APPLE.

* * The leaves from your Apple trees appear to be attacked by the Apple scab fungus (*Fusicladium dendriticum*). You should collect and burn all the leaves that have fallen from the trees that have been attacked as soon as possible. In the spring, just before the leaf buds open, spray with Bordeaux mixture. Repeat the application just before the flower-buds open and again as soon as the blossoms have fallen, and then once more about ten days later. The following is a good recipe for the Bordeaux mixture: 1 lb. of sulphate of copper (bluestone) dissolved in 10 gallons of water in a wooden vessel, 1 lb. of lime, and 1 lb. of common treacle, boiled together in a quart of water for half an hour. When cool pour the lime and treacle into the solution of bluestone, stir well, and it is ready for use.—G. S. S.

Little-grown Apples.—"A. D." (p. 318) enumerates six varieties of Apples which drew but little competition, and one of them none at all, at the recent show at the Crystal Palace. Three of the varieties named I am not well acquainted with, but the other three I have grown for some years, and am at a loss to understand why two of them, Duke of Devonshire and Egremont Russet, are not more generally grown than at present. The former is a small fruit, but its shape and colour are very good, and when well ripened it will keep until April, when it is of excellent quality for dessert. This Apple should be allowed to remain upon the tree as long as possible, an old herring net being thrown over the tree to keep off the birds, which are apt to be troublesome. With me this year the crop was gathered on November 1, up to which date it had grown freely. Egremont Russet is a larger fruit than the last-named, and has a dull russet appearance when growing, but becoming almost yellow when fully ripe. James Grieve is a comparatively new Apple, it having been introduced to cultivation about ten years ago, and judging by the large number of trees that were last year despatched to England from its place of introduction in Edinburgh, it is probable that in the near future it will be much in evidence at autumn exhibitions. I have cultivated this variety for several years, and have found it to be one of the most prolific and constant fruiters grown, either as a bush or cordon. When planted against a wall the fruit is large for dessert, but from the open of good medium size and very well shaped. This

season it has coloured remarkably well, being at present almost yellow, with faint dashes of bright red about the upper part of the fruit, which gives it a very distinct appearance when staged.—JAMES DAY, *Galloway House, N.B.*

INJURY TO WALL TREES FROM WIRE.

THOSE who may possibly, like myself, have been troubled with the pernicious effects of galvanised wire upon Peach and Nectarine trees in particular will do well to adopt the following practice every year at about this time or a little earlier, say as soon as the leaves are falling freely. I go over the trees and cut every tie that holds them against the wire, and then bunch up the wood so that it cannot be broken down later on when snow is a possible occurrence; thus each stout leading growth supports its own younger ones. The former in turn are then slung loosely to the wires, so that the wood does not touch them. In order to effect this a wooden block is placed behind the main stem, so that it is sufficiently removed to create a resisting power when drawn back again. Since I have adopted this plan, now nearly twenty years ago, no trouble has ever resulted. Before that it was grievous to see the harm done every year to the young wood, so much so as to make some of the trees perfect skeletons. It took a season or two to find out when the injury was actually done. I used to think at first it was caused by heat, but this was in due time clearly proved not to be the case, as none of the wood was affected at the fall of the leaf, but was found to be so in the spring following. Upon closer observation then it was distinctly seen where the injury was caused and what also was the cause of it. Every shoot of the previous season's growth wherever it touched a wire or wires was practically killed through, leaving only that portion farthest removed from the wire in a sound condition. The cause beyond any question was the cold which acted in contact with the wires, resulting in the temperature being lowered below that of the atmosphere. Anyone can prove this for himself by holding galvanised wire in his hands at such times, when he will find the cold to be intensely penetrating. From observations taken at different times and seasons, I have arrived at the conclusion that both extremes of temperature have the same injurious effect; it is not caused when the wire is of a normal temperature. The last injury I noted was to some current season's shoots of *Dendrobium nobile* which only lightly touched the wires. These were blackened at above and below the contact. Heat in this instance was the cause, it being intensified by the wire. Harm is not done to the Peaches and Nectarines by heat, as the shade imparted by the foliage is sufficient protection, but it is caused, as stated, by the directly opposite conditions. The bark of the current season's growth of Peaches and Nectarines is still soft, and hence liable to harm during the first winter. It does not become hardened, as in other trees, until the following season. Herein no doubt is the explanation of the injury more immediately done to these fruit trees. This anyone can take note of himself at the present season. When I was at first being troubled with this killing of the wood I painted the wires as a further preventive. This modified the injury, but it will not do to depend upon it entirely. Only a few seasons back one or two trees upon a wall by themselves escaped attention at this season. These when examined in the spring were affected in the same way as in years past. The same thing also occurs wherever any shoot perchance does come into contact with the wire in the case of the other trees. The wiring of walls, either perpendicularly or horizontally, for fruit trees or for flowers is, in my opinion, after years of close observation, a great mistake. It has been the cause of a deal of trouble when done in this fashion. The proper or rational method is to arrange for cross-wiring, for which purpose sections of wirework forming diamond shaped meshes are the best. In this way the current set up in the wire is modified or

diverted, and less harm is caused by it. In every instance the wire should be fixed close to the wall, so that there is not room for a cold current of air to play behind the trees. My wall is, unfortunately, wired at about an inch from its face. When a wall is not wired closely there is room for the fruits to get fixed in awkward positions. This I find will often occur through no fault of those in charge. In the case of Cherries the injury is not so serious; there it shows itself in gumming wherever the bark is injured. The moral, of course, is slack ties to some extent, but this will not always suffice, as I found out frequently in the case of the Peaches and Nectarines.—J. HUDSON.

* * We hope these remarks of Mr. Hudson will be considered by gardeners and many others who are so busy in wiring walls with galvanised and other ugly contrivances. Surely the proper way is to go back to the old thoroughly sound principle of latticing the wall with Chestnut, Oak, or—as they now come in such fine condition and are so cheap—Bamboos, which are wholly free from any objection, as far as we can see, and very much nicer to look at, whether on a house or garden wall. That we are going to do ourselves. We find that the complaints against galvanised wire, or wire of any kind, are as frequent in France as in England, and, therefore, both in the interests of fruit tree cultivation and also in those of the many beautiful climbers that we have for the adornment of the walls of houses, the whole of recent practice should be reconsidered.—ED.

COVERING EARLY VINE BORDERS.

COVERING early Vine borders in autumn previous to starting the Vines is regarded by some as a waste of labour—their standpoint being that a foot or two of leaves applied at that season of the year cannot possibly communicate any heat to the roots—but the fact is that it is not maintained by those who practise it that heat is actually communicated by the covering, but that the heat which is already in the border is prevented from escaping, and snow and heavy cold rains prevented from exercising an evil influence. In one garden where ripe Grapes were expected in May, the border of the early viney was covered in October with from 18 inches to 2 feet of dry Oak and Beech leaves; common Flags, cut from a shallow pond some weeks before and laid on shed roofs to dry, being afterwards used as a thatch for the leaves. The house was elevated considerably above the ground level and entered by a couple of steps, the border outside being necessarily elevated as well. This, by the way, is my favourite form of early viney from a warmth point of view. The house was started in November, and when the border was pricked over with a five-tined fork as soon as the covering was removed in April, a multitude of fibrous roots was found immediately beneath the surface. In other two borders which never received any covering there were no roots worth mentioning nearer than a foot from the surface. Whenever a heavy fall of snow occurred it was not allowed to melt and sink into the leaves on the early border, but was immediately drawn off by a long-handled wooden scraper made especially for the purpose, and having a handle long enough to reach right across the border, this rendering treading on the thatch unnecessary. I remember that for some reason this viney was not started early one season, but allowed to come on gently, and the Vines which had been forced for twenty-five years in succession bore splendid exhibition bunches, plainly proving how well furnished with roots the border must have been. J. C.

Crab Apples in the garden.—I hope Mr. Parker's note in favour of the Dartmouth and other Crabs will lead to many more being planted this month. The scarlet and golden Siberian Crabs used to be much more planted than now, and it almost seems that with the introduction of John Downie, Maulei, &c., the common Siberian Crab had lost ground in our landscapes. Mr.

Lynch is rendering good service alike to horticulture and landscape gardening by growing a good collection of Crabs in one group in the botanic gardens at Cambridge. Should this meet his eye, perhaps he would be good enough to give your readers his impression of the best varieties for landscape effects, table, or room decoration. Few plants could enrich our lawns and home woods more than Crabs. The Fairy Apple, from which so much was expected some years since, is a chance seedling from the scarlet Cherry or Siberian Crab. It forms a welcome addition to any collection of Crabs, and is fairly good eating from December to April. It is best eaten with the rind on. The colour is a rich blend of crimson and gold, flesh deep yellow and juicy. It hardly equals for landscape effect the majority of the Crabs.—D. T. F.

Fig Brunswick.—At p. 357 Mr. Crook mentions a fine tree of this not always reliable open-air Fig he recently saw carrying a fine crop. For planting in a cool house Brunswick is a capital variety. I once had under my charge a good old tree growing on the back wall of a late vinery. The Vines only came up as far as the back pathway, thus allowing plenty of sun and light to reach the back wall. The fruit usually ripened in September, and did good service at an important show. On account of its vigorous habit of growth a limited root-run only should be allowed, abundance of rubble being mixed with the soil. I should think the tree mentioned by Mr. Crook is not an exception this season, as open-air Figs ought to have done fairly well, although they must have received a considerable check during the cold weather in May. When well grown the large Pear-shaped greenish purple fruit of Brunswick is hard to beat on the exhibition table.—C.

Blackberries as a paying crop.—The remarks by D. T. Fish (p. 358) on Blackberries as a paying crop are interesting at this season when such large quantities of extra fine well-ripened fruit are being sold in country towns. In East Anglia this autumn Blackberries have been most abundant and good, the great heat no doubt accounting in a measure for this. It is astonishing what heavy crops Brambles will yield where they have a free course, and intending planters would do well to provide means for the plants making a rambling growth. The finest crops of Blackberries I have ever seen have been about Rougham and Barton, two parishes a few miles from Bury St. Edmunds. Here many of the hedges are not trimmed, but allowed to grow for years. The Brambles climb to the top of these and the fruit hangs in dense clusters. It is a common thing to meet a party of Blackberry gatherers with buckets and baskets heaped up with fruit, being well paid for their trouble by, as D. T. Fish says, selling at 4d. a pound.—NORWICH.

Transplanting.—The recent rains, although yet insufficient to saturate the soil deeply, have sufficed to enable planting of most descriptions to proceed freely. Just as a wet soil is bad for planting, so, too, is a very dry one. But in its present condition, where the moisture just suffices to cause the soil to pulverise thoroughly, without being at all adhesive, then its condition for planting is of the best. Few things are of greater importance in transplanting than is lifting with exceeding care, so as to preserve all fibrous roots in their entirety. If the season be a favourable one and soil is in suitable condition, then transplanting of anything of reasonable dimensions furnishes little or no risk. When shrubs, fruit trees, Roses, &c., are obtained from a distance and arrive with roots somewhat dried, it is a good plan to soak the roots in water for a few hours before planting, as the wood is then well furnished with moisture. Very few things benefit by deep planting. It is quite in the nature of vegetation that roots should seek to go deep into the soil, and the cultivator, especially of fruits, finds ample labour in seeking to amend the habits of Nature by striving to keep them near the surface. When near the surface the roots can be artificially fed, thus enabling the plant, whatever it may be, to become either

more fruitful or more healthy, as may be desired. Shallow planting helps to that end, and, as all know, a mulch of long manure counteracts any dangers that may result from having the roots too near light and air. Not only is the soil sufficiently moist now, but it is yet fairly warm, and thus helps to the speedy formation of young roots.—A. D.

CURRENTS—RED AND WHITE.

RED and White Currants are in such great demand in their season (which lasts over many months) for tarts, jellies, and the many other ways in which they are used, that they must be largely grown in all private places. Commercially, I do not find them nearly such a paying crop as Black Currants or any other of the soft fruits. They, however, very rarely miss a crop, and if the profits of growing are



Currant White Dutch.

but small, they are tolerably certain, as prices fluctuate very little.

There is a great deal of confusion as to nomenclature, there being very many more names, especially among reds, than there are varieties, and it is high time that the authorities made a thorough examination of all that can be brought together and issued a reliable report on the subject. A very good selection of Red Currants for any garden would be Fay's Prolific, Raby Castle, and Reine Victoria; these are given in the order of their ripening and are the finest that can be grown in their seasons. Each of them is honoured with more than one name, but they should be readily obtainable under the names given. If confined to one, I would choose Raby Castle, which is a grand doer in every respect. A new and apparently distinct variety shown under the name of American Wonder is very fine indeed,

and though it may eventually turn out to be an old friend in new guise, its name should be included in any order given for bushes. Of whites, the old White Dutch is good and reliable, and White Transparent is a grand Currant, very sweet and useful for dessert or any other purpose.

For general purposes Red and White Currants are best grown vase-shaped on a clean stem; cutting out the centres admits light to the bushes and the fruit hangs better. They may be also trained cordon fashion, and are very useful for clothing walls facing north, where the fruits will hang for months in good condition provided the wall and bushes are kept clean. Cordons may be planted at any distance apart, according to the number of up-rights to be trained on each tree. Bush trees are best at about 6 feet apart, and they should be planted on well-manured ground which must be free from all perennial weeds, especially those of a climbing nature, such as the wild Convolvulus, which can never be got rid of if once allowed to establish itself among the bushes. Mulching between the bushes is a great help during the growing season. Spur-pruning is the most convenient method of dealing with established bushes, cutting in each annual shoot to within an inch of its base, doing this at any time during autumn or winter. Summer pruning is also desirable, as by shortening the shoots about half their length just as the fruits commence to colour, a great deal of the Currant aphid is removed, light and air are admitted, and the bushes are better able to support the nets.

Propagate by cuttings in October or later, choosing strong straight growths cut with a heel of the older wood and to about 10 inches or 12 inches long. Disbud the lower portion to keep the stems clear of growths and put the cuttings in nursery rows, burying them to about half their length; see that the base of each cutting rests on the soil and make them firm. The soil in most garden nursery quarters is poor and the position often an unsuitable corner, neither of which is suitable for the Currant cuttings. These should have a good and well-cultivated soil from the first, as unless they get this they make weak shoots and weak bushes eventually. Train to a single stem the first year, then in autumn cut this back to the height of clear stem wanted. The after-treatment will consist in removing all but the necessary shoots, and the bushes may then be built up gradually by leaving a good length of ripened wood each year till the limit is reached. Currant bushes last a long time in good condition if well fed, and it is not unusual to see them twenty years old, but I like to keep up a succession of young bushes by planting a row every two years or so and destroying a similar number of the older ones. J. C. TALLACK.

Peach Bellegarde.—"J. C. T." has taken me to class Bellegarde with the lightest-coloured varieties. This was not exactly my meaning, though I must say that in at least a dozen years' experience of this finely-flavoured and useful late Peach I have never been able to get the colour in it that is described in nurserymen's catalogues and illustrated in works on fruit culture. The present year is no criterion, as the lack of colour in many fruits has been conspicuous, and my fruit of Bellegarde has when ripe been quite green, while fruit on the next tree to it—Waterloo—has been of very fair colour. I have no reason to doubt its being true, my trees having been obtained from a well-known firm who make fruit a speciality, yet I grew the individual trees for three years in the south of England, and brought them with me to Suffolk,

and have never seen a fruit of really high colour upon them. The soil in both cases has been heavy and not of the character to bring out the best points of Peaches.—H. R.

FRUIT AT THE NOVA SCOTIA PROVINCIAL EXHIBITION.

THE display at the recent provincial exhibition held in Halifax was in every way a credit to the growers, and in spite of all the insect and fungoid pests which every year invade the orchards, it is evident that our growers are each year improving on old methods and coming nearer to the ideal system. This year spraying has been far more general than ever before, and the result is that, notwithstanding the fact that the season was admirably suited to the growth of fungoid diseases, the Apples are far more free from black spot than usual. One of our largest Apple growers ventured the opinion that in future it would be impossible to grow exhibition fruit without spraying. The finest display at the exhibition was of course among the standard shipping sorts, such as Gravenstein, King, Ribston, Blenheim, Northern Spy and Baldwin, and the number of plates of show Apples of all these varieties was remarkable. There were twenty-five entries of Gravenstein, every one of which was a credit to the man who grew it, and as the Gravenstein is this year unusually well coloured, it made a fine sight. The Red Gravenstein, a sport from the true Gravenstein, was well represented, and seems to be gaining favour. Besides these old reliable varieties, a number of sorts comparatively new to Nova Scotia were shown. Two plates of Red Beitigheimer attracted much attention, and were by far the handsomest Apples in the exhibition. Their large size and brilliant red colour made them very attractive, but whether their quality is sufficiently good to warrant growers growing them may well be doubted. So long as buyers continue, as at present, to be guided in their purchases largely by the appearance of fruit, it is probable that this variety might prove very profitable, but there are indications that consumers are learning to consider other points than size and colour, and having already so many tried varieties which are known to grow to perfection in Nova Scotia, it is hardly probable that we would be justified in abandoning them for such new sorts as the Red Beitigheimer.

In "barrels packed for export" there were twenty entries, and if these may be taken as a standard of what the province is to furnish to foreign markets this year, our customers ought certainly to be satisfied. The bulk of Nova Scotia Apples goes to the London markets, though Liverpool receives a fair share, and this year an unusual number, more especially of Gravenstein, are going to the United States. Reports from all these markets indicate that the exhibition fruit was but a fair sample, and that the reputation of Nova Scotia Apples is not to suffer from this year's transactions.

The exhibits of Plums were fairly large, though, of course, Plums are of secondary importance as compared to Apples. Bradshaw, Pond's Seedling, Green Gage, Washington, and Burbank are the leading sorts. Moore's Arctic and Lombard, though largely grown, must give way before varieties of better quality. Burbank seems to be the most promising candidate for the future. Its large size, attractive appearance, and good quality make it sell at good prices and it bears transportation well, which is a consideration, for if Plum growing is ever

to become important here, some means must be devised to place our fruit on foreign markets.

Some very good samples of both Grapes and Peaches were exhibited, but Nova Scotia will never do more than supply her own markets with these fruits, and it is likely to be some years before she does even that.

Wolfrille, Nova Scotia.

F. C. SEARS.

Apple Maltster.—This old midland variety is a favourite at Madresfield Court, where it does remarkably well and fruits freely. Whilst locally regarded as of excellent flavour, it certainly falls much below the flavour standard of our best dessert varieties. The fruits are of good size, larger than those of Ribston Pippin, though somewhat like them in shape, the flesh fairly soft, but soon becoming woolly—that is at least general experience. It is doubtless due to these defects that Maltster has not been widely grown. Another defect attributed to it is that the wood is so tender that entire trees have been killed during very severe winters. On that head more information is desirable, as, in any case, at Madresfield it seems to be as hardy as any other variety.—A. D.

Best flavoured Gages.—Were I asked to name the three best flavoured Gages I should say Transparent Gage, the old Green Gage, and McLaughlin's Gage. Transparent Gage is an awkward grower, forming its spurs a long distance from the wall, and, being also of rampant growth, is often slow in bearing unless in very poor soil, and even then generally needs root-pruning several times. The old Green Gage is perhaps the richest of the three and more appreciated for jam-making than any other Plum. McLaughlin's Gage is not so well known as it deserves to be, being a most delicious fruit, greenish yellow and heavily mottled. It needs less root-pruning than most of the Gages, young trees bearing freely. No Plum wall should be without these three varieties.—C.

Pear Fertility.—This Pear is largely grown for market in some counties, being a good cropper. I have never heard that fruit from orchard trees is liable to become suddenly soft and useless before it is fit for gathering. I had an espalier tree which bore plenty of fruit, but this invariably turned sleepy in the centre all at once. It was not that the fruit was left on the tree too long, but it turned from a comparatively hard, unripe state to a useless condition without the slightest warning. At last I rooted it out. The soil the tree grew in was of a light, warm nature; perhaps in a cooler, moist medium the fruit would have remained sound till gathered. Fertility, though not of the first quality, is nevertheless a good amateur's Pear. Where this premature decay does not affect it and in cold, bad Pear districts it might be grown as a garden tree.—C.

Grape sports.—How interesting would it be could we solve the physical problem involved in Grape sports. These are apparently of common occurrence, yet how few have come into commerce as permanent varieties. Cannon Hall Muscat, if really a sport product, is perhaps the best, but all the most popular Grapes seem to be of seed production. The sport from Muscat of Alexandria, which has been in evidence some three years at Chiswick, will perhaps prove when its fruits on its own roots to be a counterpart of the Cannon Hall variety. In any case we should soon be able to see whether as a sport it is worth general culture. A very fine Grape sport is that which Mr. Thomas Rochford has at Broxbourne, and which I have recently learned continues to show its very marked distinctness. Still, I do not learn that it has fruited on its own roots from eyes. This sport is on the Black Alicante, the berries having the thick skin of that variety, with berries the size of those of Gros Colman and rather oval in shape. It should make a fine late winter Grape. Another very fine sport, but from Gros Colman, can just now be seen at the Ashford Vineries, Cobham, Surrey, where a

Vine two years planted has in its upper portion so changed its character that the wood, so far from having the Gros Colman smoothness, is quite rough; the nodes or leaf-buds are very close, averaging six to the foot, as against three and four of the Gros Colman, and the leafage differs also. Two bunches have been produced of good size, but having abnormally large round berries that are double the size of those of the true Gros Colman bunches on the Vine. Here again, with every promise as now presented of a remarkably fine sport, nothing definite can be determined until young Vines taken from it have fruited. If such sports as those mentioned do not become permanent varieties then sports are worthless.—A. D.

APPLES FOR EXPOSED SITUATIONS.

MANY of the finest cooking and dessert Apples which succeed well enough in warm sheltered localities are next to useless in upland districts and cold situations. To plant them is only to court failure. One of the best Apples for such positions is Lady Henniker, it being of robust, hardy constitution, and though large, is of good dessert quality in December and January. In flavour it much resembles the Blenheim Pippin. The new and popular Apple Bismarck possesses a good constitution and bears freely in most seasons, quite young trees carrying fine, bronzy, handsome fruit. This is undoubtedly one of the most valuable additions to the list of really profitable Apples. Stirling Castle may be confidently planted in cold districts. A gentleman residing in Argyleshire informed me that it was one of the best varieties he grew. Seaton House is very similar to it, and a very worthy sort. The growth of Stirling Castle is short and stocky and gets well ripened each autumn. Keswick Codlin used to be recommended as a hardy, constant-bearing variety, but this is now superseded by that handsome Codlin, Lord Grosvenor. This variety crops so heavily on young trees that they are liable to be broken down by the weight of the fruit, especially in windy positions. Both the old and new Northern Greenings are excellent for cold soils and exposed places, the former keeping quite sound till March. Northern Dumpling, an October Apple of large size and handsome appearance, bears abundantly in cold northern localities, and should be specially noted by intending planters. Rosemary Russet, a dessert Apple of excellent quality, belongs to the same category. To the list must also be added James Grieve and Sturmer Pippin; the former succeeds where Cox's Orange is tender, and is of fine flavour, and the latter, owing to its close habit of growth, which protects the blossom in spring, carries a crop in nine seasons out of ten. In quality it approaches the Ribston, and will keep sound till April. The foregoing should all find a place in exposed orchards.

J. C.

Pear trees casting their fruit.—There are a few useful good-flavoured Pears that unfortunately have a tendency to cast their fruits just as they have arrived at their full size and before they are fit for gathering. This is very annoying, as the fruit invariably shrivels and is useless. One of the worst in this respect is Knight's Monarch, a richly flavoured, useful-sized dessert variety in use for four months in winter. I fancy dropping is more common on light soils than in those of a stronger and more retentive nature, and this fact seems to point to the advisability of supplying the roots with a liberal amount of moisture, mulching also assisting the trees by preventing hasty evaporation. Comte de Flandre, a long, handsomely-shaped, free-bearing variety in season in November, has the same failing. I had a pillar tree on a west wall; the border sloped considerably, and in extra dry seasons the fruit dropped badly. Beurré d'Aremberg, one of the freest cropping and most useful December Pears in cultivation, is liable to cast its fruit, but it usually carries such a crop that there is sufficient fruit left. This Pear should be in

every collection, as it is almost equal to Winter Nelis in quality and remains in usable condition a considerable time. In my opinion the best, and, indeed, only way of reducing dropping to a minimum is by liberal mulching and several copious waterings during the swelling season.—J. C.

TREES AND SHRUBS.

THE SEA BUCKTHORN.

(HIPPOPHAE RHAMNOIDES.)

DURING the autumn and winter months we have no more beautiful object among hardy vegetation than the Sea Buckthorn—certainly

for grouping, not only because the effect is so much finer, but also because it bears its male and female flowers on separate plants, and thus two at least of them are necessary for fruit to be obtained. But as the male plant possesses no attractive features beyond its foliage and habit, it is an economy of space to use in a group say six or ten female plants, whose flowers a single male plant will be found sufficient to fertilise. One can generally distinguish the male plant in its adult stage by its stronger habit and larger leaves, but I do not know any way of distinguishing young plants before they flower. If they are seedlings (and propagation by seed is the easiest method), they ought to remain in nursery

viz., *H. salicifolia*. This is a large shrub or small tree 20 feet high, with leaves much larger than our native species and not silvery. It does not appear to be of the same value under cultivation, fruiting but little and having less brightly coloured berries. Both species are, of course, absolutely hardy.

I have not heard of the fruits of the Sea Buckthorn being used in this country for food—the birds even leave them alone—but according to Brandis, in his book on the "Forest Flora of India," they are thus used by the natives of the Himalayas. He says: "In Lahoul, thickets of *Hippophae* are so valued as to be considered village property. The fruit is intensely acid, but boiled with sugar forms a



The Sea Buckthorn (Hippophae rhamnoides) by the lake in the Royal Gardens, Kew.

none that remains so bright for so long a time. Throughout those two seasons the younger branches (i.e., the branches of the previous year) are thickly packed with brilliant orange-coloured fruits about the size of large Peas. The illustration shows a group of plants growing on the banks of the pond near the Palm house in the Royal Gardens, Kew. This group is very happily placed. Behind it is a dark mass of Bamboos, and on one side is the water, near enough for the roots to obtain the abundant moisture they love. The species is a native of Britain, and is most abundant on the east and south-east coasts, where it sometimes becomes a fair-sized tree. Apart from its fruit it is handsome in its graceful shoots and narrow silvery leaves. It is essentially a plant

quarters till the sex is determined, so that at the permanent planting no more than the necessary proportion of male plants need be set out. Where space does not admit of more, a single female plant could probably be made to bear fruit by grafting on it a shoot of the male.

Although the Sea Buckthorn gets to be a tree—there is a specimen in the arboretum at Kew about 30 feet high whose trunk is 3 feet 6 inches in circumference at 3 feet from the ground—this need not deter anyone from growing it. It can be kept at any required size above 6 feet (the plants in the illustration do not average more), and pruning does not affect its fruitfulness.

There is another *Hippophae* in cultivation, a species from the outer and middle Himalayas,

palatable and wholesome preserve." In spite of its accommodating nature and its perfect hardiness, this shrub is greatly neglected by planters. This is the more remarkable because it is in its greatest beauty during that part of the year when it is most likely to be appreciated.

Kew.

W. J. BEAN.

Crataegus Lælandi in Finsbury Park.—Near the Manor House entrance to this park there are just now some very handsome bush specimens of this beautiful shrub. Mr. Melville, finding this impatient of removal, acquired a stock of young plants in pots, and these were planted out some two years ago. They are arranged in a broad border with a western aspect, some few feet apart from each other, and, being freely berried, the contrast with the dark green

foliage is most effective. A background of shrubs also adds to the effect of the bright red berries.—C. A. H.

PUBLIC GARDENS.

CHRYSANTHEMUMS IN THE PARKS.

BATTERSEA PARK.

THE collection of Chrysanthemums at Battersea Park is—like many others we have seen this season—somewhat under the average, owing no doubt to the very trying summer through which they had to pass. Judging by the attendance of visitors on the occasion of our call, there seems, however, to be no diminution in the public interest that the collection excites locally, and as a whole it is a very creditable and interesting display. The plants are housed in the same greenhouse as usual—a Palm house—but one not quite suitable for accommodating Chrysanthemums. The method of arrangement does not differ from that of previous years, there being a long sloping bank of plants with a path in front, the visitors entering at one end and passing along to the exit at the other end, so as to avoid any crowding or confusion.

Taking the old type of incurved first, it is worthy of note that most of the well-known popular sorts are represented, and, indeed, at most of the London County Council displays the older varieties, both in this and the Japanese section, seem to be freely used, and novelties in the general sense of the term must be looked for elsewhere. Abundant evidence of the value of many of the varieties discarded by exhibitors may be found at the parks, for many bright and effective blooms that are of no use on the show-board become positively radiant when judiciously intermingled in these long banks of colour, the tendency often being to run into varying shades of white and yellow. Baron Hirsch is rich and good in the incurved section, and its colour renders it of great value for these shows. Among other incurved kinds well known and needing no description, Empress (both white and golden), Mrs. W. Shipman, Golden Geo. Glenny, Lord Alcester, John Lambert, John Doughty, and Mrs. Robinson King are all well done and receive due recognition. Others, too, such as Prince of Wales, Jeanne d'Arc, Globe d'Or, C. H. Curtis, D. B. Crane, Mr. Bunn, Refulgens, Alfred Salter, John Salter, Lord Wolsely, and several others equally valuable, will show to what extent the section is represented, and the old lovers of the incurved blooms will not feel that the more modern Japanese has entirely extinguished what many people still consider to be the more perfect, if less showy, type.

Japanese, of course, figure very largely, and it is easy to imagine the necessity which compels the providers of such public displays as these to include a very large proportion of this protean flower in their collections, for, apart from questions of colour, diversity of form must be taken into account, and to this quality there really seems to be no limit with the Japanese. Old-time useful sorts include La Triomphante, pale pink; Lady Selborne, pure white, and its lilac-mauve parent, James Salter, very useful for an early opening show; Brise du Matin, dwarf, and of a pretty shade of pale lilac-pink, and one of Delaux's novelties of many years ago; the same raiser's October variety, M. William Holmes, crimson and bronze; and his Hamlet, delicious soft salmon-rose, has hardly been bettered for beauty of colour, and the same remark will apply to his Comte Lurani, which was figured in THE GARDEN soon after its merits were first appreciated. Unfortunately for himself, M. Delaux has not kept up to his standard, for another of his, Charlotte de Montcabrier, is a very graceful, long-petalled drooping Japanese, colour delicate pale pink. His M. Freeman, deep pink, very dwarf, is useful for a front row pot plant, and his darker Jeanne Delaux is still preserved for colour, which is an intense dark

velvety crimson with golden reverse. Japanese from other sources include in crimsons Wm. Seward and John Shrimpton; in whites, Lady Byron, Mlle. Lacroix, Mrs. H. Weeks, and in other shades there are G. C. Schwabe, very bright and fine; Sunflower, good; Val d'Andorre; the old purple-maroon Edouard Audiguier, Edith Tabor, very fine in form and of a beautiful shade of pure yellow, and Lady Hanham, the salmon-rose and gold sport from Vivian Morel, which is really one of the most delicate and finely formed flowers wherever we have seen it this year.

Calvat's seedlings are not quite so freely grown in the parks as in the trade collections, but they no doubt will be in the course of time. Of these, M. C. Molin (golden-bronze) and President Borel are everywhere; Mme. Ed. Rey, a fine big flower, colour pale pink; Louise, pale pearly pink, big and globular; M. Chenon de Leché, Mlle. Thérèse Rey, white; Mme. Carnot, white; Australian Gold, pale yellow; and l'Ami Etienne, pale pink, are universally admired, and as many of this raiser's blooms are somewhat early, it seems to give him rather an advantage over his rivals in this respect.

American kinds, however, still strive for a fair share of public recognition, and of these there are at Battersea in good form such standard sorts as H. H. Fewkes, medium size, but clear in colour; W. Tricker, very pretty bright pink; Gloriosum, an old well-known yellow; G. W. Childs, deep bright velvety crimson and gold; Puritan, Eda Prass, W. H. Lincoln, the newer and deep golden-yellow Modesto, and Good Gracious.

The hairy section and a few of the Anemone type are also represented, and of the former we specially noted one plant of the once-famous Mrs. Alpheus Hardy, Esau, bright pretty pink; Mrs. Dr. Ward, Spatel, deep pinkish lilac; Hairy Wonder, a shiny, glistening golden-bronze; Beauty of Truro, &c. Free use is made of some bush-grown plants of Margot, a pretty decorative Japanese, and the beautiful little pompon Mlle. Elise Dordan. Other decorative plants of pompon varieties, such as Sunset, Sœur Melanie, La Vogue Précoce, Rosinante, and Golden Mme. Marthe are effectively and tastefully arranged.

WATERLOO PARK.

In this popular North London park the Chrysanthemum is represented in fine form this season. A few sorts, as Mme. Carnot and William Tricker, with their respective sports, have failed to come well from an early bud selection, the hot weather prevailing during August accounting for this. One specially noticeable feature of the display is the bright and striking colours of the flowers, the crimson-coloured blossoms being wonderfully brilliant, and as these are grown somewhat freely here, contrasts of crimson and yellow, white and crimson, besides many other pleasing effects, were produced throughout the long range of disused vineries and other glass structures. Some 2700 plants in 275 varieties will at once give an idea of the representative character of the display, and considerable taste has been evinced in the effective grouping of the different types of the flower. While the Japanese varieties predominate, there is also a goodly sprinkling of Anemone, incurved and decorative sorts, and not the least pleasing feature of this interesting exhibition is the free display of pompons. The best of the old sorts and a useful number of novelties make the show of more than ordinary interest, as this enables the public who throng the houses during the hours of opening to make comparisons. Of the older Japanese sorts represented in better form than usual we noticed Gloire du Rocher, quite orange-crimson in colour and carrying handsome flowers; Mrs. E. G. Hill, large pale blush-pink; Prefet Robert, as good as we have ever seen it; A. H. Neve, still considered a lovely bloom; and Mrs. W. H. Lees, a rose-tinted white flower. Eda Prass, pale creamy pink, on first crown buds from plants stopped in March last, was most effective. Avalanche, the popular white of a few years since, was developing chaste blossoms of large size, and

is rightly held in high esteem here. William Seward and G. W. Childs, respectively deep and bright crimson, were represented in capital form and colour; while Vivian Morel and its sports, on both early and late bud selections, were coming very full, although the later flowers were much prettier and possessed good colour.

New Japanese kinds dotted here and there were Pride of Exmouth, pleasing only in late flowers, although very large; G. J. Warren (yellow Mme. Carnot) on late buds was opening kindly; Emily Silsbury, a plant of easy growth, with lovely rich creamy white blossoms, was often in evidence. Lady Byron, very fine white; Duchess of Wellington, large spreading yellow; Australian Gold, pale canary yellow; Phœbus, good in many different stages; James Bidenscope and Modesto, the latter one of the best deep rich yellows, were also very fine. Incurved sorts were represented by Rena Dula, but coming somewhat rough, a later bud selection evidently suiting it better. Baron Hirsch in fine bold, globular flowers of rich cinnamon-buff, and the different members of the Rundle family, viz., Mrs. Geo. Rundle, Mr. George Glenny, and the rich yellow Mrs. Dixon were also well represented. Pompons of good and pleasing form and colour were William Westlake, the best of the yellows; H. H. Crane, crimson, tipped gold; President, still highly thought of; Mme. Marthe and Golden Mme. Marthe, Black Douglas, devoid of coarseness, and a pretty little rose pompon Anemone named Emily Rowbottom, and wonderfully free. In the open borders early-flowering varieties are very freely used, and at the time of our visit were very effective in the open borders.

SOUTHWARK PARK.

The T-shaped greenhouse near the Gomm Road entrance to Southwark Park is just now in a full blaze of colour, for the Chrysanthemum exhibition is in full swing, and the dwellers in this crowded locality highly appreciate the floral treat that is annually provided for them by the London County Council. The shows in the parks are very different from those provided by the trade importers and the ordinary societies' exhibitions, inasmuch as they make no pretence to be collections of all the latest novelties, but are composed principally of good old useful varieties which are best adapted to the requirements of the locality. The collection at Southwark shows signs of considerable taste in its arrangement, there being a central bank of plants with a winding path all round the greenhouse and a side border of plants, which allows a free circulation of the numerous visitors. Interspersed at intervals are various fine-foliaged plants, such as Palms, Ferns, Araucarias, Ficus elastica, Dracanas and the like, which are more effectively and freely used than at some of the other public displays, and transform the glass structure into a veritable winter garden.

Very attractive are the deep purple plum-coloured blooms of Pride of Madford, a big, solid-looking novelty of Australian parentage. Descartes, a rich wine-coloured Japanese Anemone, is freely used and is bright and useful for the purpose. Charles Davis, Mrs. J. Shrimpton, deep golden bronze; Oceana, also a colonial of deep golden yellow; the old white Fair Maid of Guernsey, J. H. Runciman, also a deep rich tone of golden yellow and finely incurving; Mme. C. Audiguier, Phœbus, Miss Ethel Addison, big and solid and of a rich purple-mauve; and the gigantic Australie, similar in form, but rather duller in colour, are all of sufficient merit to attract attention. Varieties of continental origin in the Japanese section comprise such valuable flowers as Gloire de Mezin, a fine globular golden bronze of deep tone and early; M. Demay Tallandier, dark crimson and gold; Commandant Blusset, purple amaranth, with a silvery reverse; Prefet Robert, somewhat similar in colour, but with a deeper and bolder petal. One of the most striking and effective varieties from this source is Gambetta, which is a beautiful shade of golden reddish terra-cotta, with reverse of old gold. A very delicate shade of pale pink is to be found in Charlotte de Mont-

cabrier, and somewhat deeper and broader in the floret is the good old useful *La Triomphante*, one of De Reydellet's seedlings that seems to be a great favourite at all the County Council displays. Vivian Morel, M. C. Molin, M. Georges Biron, Mme. Carnot, M. Pankoucke, the very effective golden bronze *Source d'Or*, and the deep rosy pink N.C.S. Jubilee make up the list of the best of the continentals. American seedlings come in for a fair share of recognition. G. W. Childs, the well-known crimson, is always effective in a mixed group, and the tall but delicate soft pink Mrs. E. G. Hill is usefully employed as one of the back row plants for an early display. *Gloriosum* (yellow), *Intercean*, W. Tricker, Puritan, &c., are the best from the other side of the Atlantic.

Still confining our remarks to the Japanese section, home raisers are represented by W. Seward, Gloire du Rocher in crimsons, while the best yellows comprise Marjory Kinder, Edith Tabor, M. C. E. Shea, the pure pale yellow sport from Mlle. Lacroix, Sunflower, H. Shoesmith and others. Whites may be found in good examples of Lady Byron, Emily Silsbury, Mutual Friend, Mrs. C. Blick, Elaine, Lady Selborne and a few others. Incurved kinds are grown, and several good blooms of C. H. Curtis, Baron Hirsch, and M. R. Bahuant are open. The Queens, Rundles, Beverleys, D. B. Crane, Lord Wolsley and Prince Alfred are among the best in this group.

Hairy varieties, which are always useful for such displays, are not so numerous here as they were a few years ago, but in one corner of the greenhouse *Enfant des Deux Moudes* (white), *Esau* (rosy pink), Dr. Ward (yellow), Mrs. W. H. Caldwell (yellow), Louis Boehmer, Prima Donna, Santel 1893, F. Bertin and King of the Hirsutes are grouped together.

An open space for Preston.—A unique gift to their operatives is about to be made by Messrs. Horrocks, Crewdson and Co., manufacturers, of Preston and Bolton. At the former town they have purchased for £5000 the Militia barracks and some private ground in Stanley Street containing 10,776 square yards, with the intention of converting the place into a recreation ground for their employees. The proposal was mentioned at a meeting of the Lancashire County Council, from whom the premises have been bought, and it was heartily commended.

The extension of Hampstead Heath.—Proposed early opening.—The full amount of £41,000 required by the committee for the acquisition of the Golder's Hill estate adjoining Hampstead Heath, as a public park, having been raised or promised, the committee hope to open the park before Christmas, without waiting for the London County Council to obtain the necessary Parliamentary powers to take it over. The committee is therefore negotiating with the County Council for the opening of the new park under the joint control of the committee and the Council, until such time as the Council may legally take it over.

Open spaces.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, the Earl of Meath, chairman, presiding, it was announced that the £41,000 required for the acquisition of the Golder's Hill estate as an addition to Hampstead Heath had been completed. It was reported that the association had commenced the laying out of the Paragon, New Kent Road, that Albion Square Garden would soon be completed, and that it was hoped shortly to take in hand Christ Church Churchyard, Blackfriars Road, and a similar ground at Plaistow. It was decided, in response to applications from local authorities, to plant trees in certain thoroughfares in Clerkenwell, Islington, and Shoreditch, and to grant some apparatus for a gymnasium in Whitechapel.

The weather in West Herts.—Another very warm week for the time of year, and the third in succession. Throughout this period there has not

occurred a single unseasonably cold day and but two cold nights, when the exposed thermometer on each occasion indicated 6° of frost. The ground is at the present time about 4° warmer than the November average both at 1 foot and 2 feet deep. Rain fell on the first two days of the week to the total depth of nearly half an inch, but none at all has since fallen. The winds were, as a rule, light, and came mostly from some southerly or westerly point of the compass. During the three days ending the 6th the sun shone brightly on an average for 5½ hours a day, but throughout the rest of the week there was a very poor record.—E. M., *Berkhamsted*.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 8.

THE meeting of Tuesday last was a thin one compared with those recently held. A grand exhibit of Orchids, quite unique in the numbers of hybrid *Lælio-Cattleyas*, &c., came from Messrs. Veitch's collection, the gold medal being most deservedly awarded. The same award also was made to dessert Apples from Messrs. Bunyard and Co., highly-finished fruits being staged.

Orchid Committee.

Awards of merit were given to the following:—

CATTELEYA BOWRINGIANA LADY WIGAN.—This is a very distinct variety, the sepals and petals of fine form and substance, delicate lilac in colour. The front lobe of the lip is lilac, suffused with rose, the centre having a broad band of deep purple, which extends well into the side lobes, forming a striking contrast to the creamy white of the throat. Two cut racemes came from Sir F. Wigan, Clare Lawn, East Sheen.

CYPRIPEDIUM WOTTONI (*C. bellatulum* × *C. callosum*).—This is a distinct and beautiful hybrid, the broad dorsal sepal partaking in shape of the characters of *C. callosum*, the upper margin white, suffused with rich purple, with some green towards the base, the whole heavily veined with dark crimson-purple. The petals are rose-purple, margined with white at the apex, with numerous small brown spots on the lower half. The lip is rich purple, veined with a darker shade, the large disc of the column rich purple, shading to green in the centre. From Mr. R. I. Measures, Cambridge Lodge, Flodden Road, Camberwell.

Messrs. J. Veitch and Sons sent a large and interesting group, consisting principally of *Cattleya* hybrids. The most prominent among these was *Lælio-Cattleya callistoglossa ignescens*, the sepals and petals pale lilac, the whole of the front lobe of the lip crimson-purple, margined with pink. It has the characteristics of *C. Warscewiczii* in the yellow eyes at the base of the lip. In *L.-C. Decia* the sepals and petals are deep rose, mottled with white, the lip rich velvety crimson, veined with numerous small yellow lines at the base. *L.-C. Statteriana* varies considerably, but all the forms have the intermediate characteristics of the two parents. In *L.-C. Lady Rothschild* (*Lælia Perrini* × *Cattleya Warscewiczii*) the sepals and petals are larger than in the other Perrini hybrids, the lip purple, margined with white, with a large creamy white disc at the base. *Cattleya Mantini* (*C. Bowringiana* × *C. Dowiana*) has rich purple sepals and petals, the lip crimson-purple, with numerous yellow veins through the throat. *C. Bowringiana*, *C. labiata*, *C. Dowiana* and other species were well represented. Among the numerous *Cypripediums* were the yellow *C. Lawrenceanum* Hyeanum, two fine plants of *C. insignis* Sanderæ, and fine specimens of *C. Charlesworthii*. The hybrids were represented by fine forms of *C. Arthurianum* and the thickly-spotted *C. A. pulchellum*. In *C. Euryales* (*C. Boxalli* × *C. Lee-anum*) the dorsal sepal is white, suffused with rose, and thickly covered with large rich purple spots, the base green, with numerous

large blotches, the petals pale green, suffused with brown, the lip brown in front, shading to green. *C. Actæus* (*C. Lee-anum* × *C. insignis* Sanderæ) has the dorsal sepal white at the top, shading to green at the base, the petals yellow, spotted and lined with brown, the lip broad, deep yellow, veined with green. *Masdevallias* were represented by *M. Imogene* (*M. Veitchii* × *M. Schlimi*), in which the ground colour of the flower is yellow, heavily suffused with rich crimson. *M. Ajax* has the intermediate characters of the two parents, both in colour and shape. The *Oncidium*s were well represented in such varieties as *O. varicosum*, *O. Forbesi*, *O. dasystyle*, and *O. spilopterum*. *Dendrobium atrovioleaceum*, with two spikes of its yellow and purple flowers, was also shown. A plant of *Mil-tonia Bleuana* with seven flowers on the raceme, *Brassias*, *Odontoglossums*, *Vandas*, and other interesting species were also well represented. A gold medal was awarded. Messrs. F. Sander and Co. sent *Cypridium Jensenianum* (*C. hirsutissimum* × *C. vexillarium*), a pretty form of *Cymbidium Tracynum*, and *Angræcum polystachys*. In *Dendrobium chloropterum*, a New Guinea species, the sepals and petals are green, suffused and veined with dark purple in the centre, the side lobes veined with purple.

Mr. James Douglas, Edenside, Great Bookham, was awarded a bronze Banksian medal for a cut collection of *Cattleya labiata*, the flowers fine in substance and in colour. Mr. J. Bradshaw, The Grange, Southgate, was awarded a silver Banksian medal for a useful and interesting group of hybrids and species of the *Cattleya* family. The most prominent of these was *Cattleya Mantini*, the flowers unusually dark and good in substance. A dark form of *C. labiata* was in striking contrast to *C. labiata* grata, the sepals and petals of which were almost white, the lip having a slight suffusion of rose on the front lobe. *C. labiata* Etona has pure white flowers, except the centre of the lip, which is crimson-purple with some yellow at the base, and brown lines through the throat. *Lælio-Cattleya Statteriana* and *L.-C. Decia* were also well represented. The Rt. Hon. J. Chamberlain was awarded a silver Banksian medal for a collection of hybrid *Cattleyas* and *Dendrobium Phalaenopsis*. Prominent among these was *Cattleya* Mrs. Endicott, having the intermediate characters of the parents in the sepals and petals, the lip having the purple lines as seen in *C. maxima*. In *Lælio-Cattleya Semiramis* (*Lælia Perrini* × *Cattleya Gaskelliana*) the sepals and petals are deep rose, the lip open, crimson-purple in front, with some white and yellow markings at the base. *L.-C. Sallieri* and *C. Fausta delicata* were also included. Mr. H. F. Simonds, Woodthorpe, Beckenham, sent a large group, consisting principally of *Cattleya labiata*. *Odontoglossum grande* (finely flowered), a good variety of *Lycaste Skinneri* alba, *Masdevallia tovarensis*, numerous *Oncidium*s, and *Cypridium*s in variety. A silver Banksian medal was awarded. Sir William Marriott sent *Sophr-lælia Marriotti* (*Lælia flava* × *Sophrontis grandiflora*). The combination of the two species in this hybrid is wonderfully blended in the flowers. The shape is that of *Sophrontis*, the sepals and petals yellow, streaked slightly with orange-red, the front lobe of the lip yellow, suffused with brown. Mr. J. T. Bennett-Poe sent a cut spike with fine flowers of the true *Vanda insignis* of Blumé, and the Earl of Lisburne showed a pretty form of *Cattleya labiata*.

Floral Committee.

A first-class certificate was awarded to

POLYPODIUM GRANDE NIGRESCENS.—This was stated to be a hybrid, having *P. nigrescens* and *P. vulgare* grandiceps for its parents. The plant greatly favoured *P. nigrescens* in the colour and somewhat in the formation and general character of the fronds, more particularly in the raised nipple-like excrescences produced by the fruiting spores. Of the participation of *P. vulgare* grandiceps in the production of this plant there was no apparent evidence, and even the heavy tassel for-

mation at the extremities of the larger fronds served but to indicate a possible or probable development of the typical *P. nigrescens*. From Messrs. Jas. Veitch and Sons, Chelsea.

The following received awards of merit:—

BEGONIA WINTER PERFECTION.—A semi-double rose-coloured flower, a cross between a fibrous-rooted and a tuberous-rooted variety. It bears an abundance of well-developed flowers and is of good habit. From Messrs. Jas. Veitch and Sons.

DRACENA THE SIRDAR.—This is of very compact and dwarf habit, the broad, handsome foliage of a dark green and bordered with crimson-scarlet, the younger heart shaped leaves of a brighter shade. From Messrs. Veitch and Sons, Chelsea.

NERINE LADY CLEMENTINE MITFORD.—A very pleasing form, with flowers of a soft delicate salmon shade, the perianth divisions beautifully undulated and forming a perfect head of bloom. From Mr. H. J. Elwes, Andoversford, Gloucester (gardener, Mr. Lane).

NERINE MISS JEYKILL.—In this the form of the divisions is but slightly undulated, the head of blossoms, as also the individual flowers, of large size, and the colour a clear rose-salmon. From Mr. H. J. Elwes.

NERINE MRS. DOUGLAS.—In this the flowers are more distinctly bell-shaped and without the recurving or wavy segments of the kinds previously named, the colour being a rosy cerise, with pink shade. From Mr. H. J. Elwes.

CHRYSANTHEMUM LORD CROMER.—This is one of the handsomest flowers of the year, happily, too, an English-raised seedling. The colour is the richest crimson-scarlet, with velvet pile-like lustre, and the pale golden tipped florets that incurve to the centre complete a very finely developed bloom. The petals are broad and finely proportioned. From Mr. Robert Owen, Castle Hill, Maidenhead.

CHRYSANTHEMUM MR. W. MEASE.—This is a finely-formed Japanese flower with drooping florets of great length, the flowers of splendid proportions and of the largest exhibition size, the colour a delicate creamy white. From Mr. Robert Owen, Maidenhead.

CHRYSANTHEMUM JAMES MOLYNEUX.—A finely-formed Japanese of the purest white, flowers very large and florets long and drooping. From Mr. J. C. Garnier, Rookesbury Park, Farnham (gardener, Mr. N. Molyneux).

CHRYSANTHEMUM PRESIDENT BEVAN.—A Japanese incurved of large size, though somewhat variable as seen in two collections. In one flower the shade was a delicate rose-bronze, flushed with gold; in another bloom a flesh tint prevailed. It is, however, a handsome flower and finely formed. From Mr. Wells, Redhill, and Mr. Godfrey, Exmouth, Devon.

CHRYSANTHEMUM JOHN POCKETT.—A splendidly formed, broad-petalled flower of crimson and gold, the former, of a very rich and beautiful shade, predominating. From Mr. W. Wells.

CHRYSANTHEMUM NELLIE POCKETT.—A finely-built flower, in which the florets are very numerous and make up a bloom of rare fulness. The colour is creamy white. From Mr. W. Wells.

Among the most interesting groups at this meeting was the batch of hybrid *Nerines* from Mr. H. J. Elwes. As the majority were under number it is difficult to particularise, and, indeed, had it been otherwise, the difficulty had been equally great where all are so good. It is very evident that Mr. Elwes is developing the genus with a will, and that in the hosts of seedlings yet unfowered there may be many of great beauty, surpassing even the lovely things we have seen. The colours consist of shades of salmon, rose, cerise, pink, scarlet, &c. Apart from the colour there is a pleasing variety of form both in the bell-shaped section and in those whose petals recurve, and possess also a prettily undulated surface. A capital pot of *N. excellens* (*O'Brieni* × *flexuosa*) carried some fifteen or so of its pretty rose-carmine heads and was very attractive. In all there were shown some five or six dozen pots of these pleasing autumn flowers,

which in their setting of *Pteris tremula* gave a very good result, the group being awarded a silver-gilt Flora medal. From Mr. H. B. May, Edmonton, came a very instructive exhibit of *Polypodiums*, representing some fifty species and varieties of these easily grown greenhouse Ferns. One very useful lesson to be gathered from these complete exhibits of Fern genera which Mr. May has of late taken in hand is that visitors may readily compare them and note the relative merits of the distinct forms, as also the varying types which are contained in so diversified a group. One very notable example was *P. nigrescens*, a plant of rather spreading habit and with, so to speak, branched fronds. In this species the fruiting spores are so formed as to produce a nipple-like excrescence on the upper surface of the leaves, in some instances elongated and in others perfectly rounded, and generally nearly the eighth of an inch in depth. It is a very remarkable characteristic in this species, and provides a striking and picturesque feature. Other noteworthy kinds were *P. plumosum*, *P. crassifolium*, almost *Scolopendrium*-like in the form of its fronds, which are fully 2 feet long; *P. angustatum*, very glossy; *P. Schneideri*, which may be described as a glorified form of the Welsh *Polypody* (*P. cambricum*); *P. decurrens*, spreading and very curiously branched; *P. iridoides*, *P. phyllitides*, *P. musciforme*, the last three possessing more or less the same typical features, and forming a very useful and hardy enduring race of plants. At one end were some splendid examples of *Begonia Gloire de Lorraine*, model bushes grown from cuttings inserted but six months ago, and now complete masses of blossom (silver-gilt Flora medal). Mr. W. Wells, Earlswood, Redhill, staged a somewhat comprehensive group of *Chrysanthemums*, the boards of large blooms being relieved at intervals by vases of free-growing decorative kinds in abundance. In the latter, *Crimson Pride* and *Mytchett Beauty*, of a pleasing yellow shade, were noticeable. Among the large blooms, Mrs. White-Popham, white, lined with red; Lord Ludlow, a grand yellow; The Convention, clear bronzy gold; Mr. T. Carrington, purple and silvery mauve; *Leocadie Gentils*, one of the most distinct of the hairy tribe; Mrs. J. W. Barker, gold and bronze; and a profusion of *Nellie Brown*, the sport from *Ryecroft Glory*, were noteworthy (silver Flora medal). Mr. T. S. Ware, Tottenham, had for the time of year a remarkable exhibit of *Dahlias*, flowers of such quality as is not available one year in a dozen on the 8th day of November. In the *Cactus* group there were such things as *Fusilier*, *Leonora*, *Cycle*, *Dr. Jameson*, African, very dark; *Iona*, terra-cotta; *Beatrice*, Ensign, Lady Penzance, fine yellow; John H. Roach, yellow; Mrs. Wilson Noble, Mrs. Beck, Harry Stredwick, crimson, and others equally good. These were supported on either side by an equally good lot of hybrid pompons in leading sorts, and backed with single-flowered *Chrysanthemums* in bush form in pots (silver Flora medal). Mr. N. Molyneux, gardener to Mr. J. C. Garnier, Fareham, had several novelties among *Chrysanthemums*, such as *Nellie S. Threlfall*, a fine white incurved, and John Miles, a nicely formed flower of a bronzy yellow shade. From Forde Abbey Mr. J. Crook, gardener to Mr. W. H. Evans, sent a beautiful box of unnamed double *Violets*, which displayed good culture. In such cases, however, a certain interest ever attaches to the name of the variety. A grand basket of a white zonal *Pelargonium*, specially grown for winter blooming, and called *White Abbey*, came from Messrs. Geo. Bunyard and Co., Maidstone, the plants being splendidly flowered. Several masses of perennial *Asters* came from Messrs. Veitch and Sons, such as *A. grandiflorus* and *A. Tradescanti*, being very good, the latter example being some 6 feet through and quite enveloped in pure white blossoms. Mr. Robert Owen, Maidenhead, had a few of his *Chrysanthemum* novelties, such as *Owen's Memorial*, *Edith Owen*, rosy mauve, very fine, and Mrs. W. C. Egan, a clear lilac-rose, being among the best. Mr. Godfrey, Exmouth, likewise had a few boards

of good blooms, including *Lord Boston*, Mrs. J. G. Glessmer, clear gold; *Autumn Glory*, a clear pinkish mauve; and *Le Grand Dragon*, a fine golden that appears everywhere good this year. *Dome d'Or* is all the name implies, and equally so *King of the Yellows*, a rather small flower, but possessing a shade very near the old *Jardin des Plantes*. Mr. Sander, St. Albans, had finely-grown plants of *Acalypha hispida* and *A. Godseffiana*, while the two *Dracenas* bearing the above varietal names were also included in the exhibit.

Fruit Committee.

This committee had fewer exhibits than usual; indeed, there was only one collection of fruit. This came from Messrs. Bunyard and Co., Maidstone, and consisted of 100 dishes of dessert Apples, remarkable for their splendid finish and beautiful colour. The central group was the new *Allington Pippin*, not unlike a *Cox's Orange*, but brighter in colour. *Jas. Grieve* was also very fine. This promises to be a valuable addition to the dessert varieties and is a favourite in Scotland. Few Apples, as regards symmetry, can compare with *Mabbot's Pearmain*. A new Apple was called *Loddington Pearmain*. This is not by any means a good name, as it will clash with *Loddington Seedling*, a very different fruit. Another less-known but beautiful Apple is *Christmas Pearmain*. Most of the *Calvilles* were represented, and we have never seen better *Russets*. The *Egremont* and *St. Edmunds* were beautiful fruits. *Winter Ribston* was a splendid lot. This fruit is outwardly too like *Blenheim Orange* to attract notice, but the flesh is quite distinct. It is an excellent but little-known Apple and a good bearer. Many of the older varieties were remarkable for their colour, and the collection well deserved the gold medal awarded. *Pear Beurré Clairgeau* was sent by Messrs. Jones and Son, Shrewsbury, these being fruits from a second lot of flowers. A seedling Apple named *Gascoigne's Scarlet Seedling* was also sent. This is a pretty Apple, which the committee desired to be sent on another occasion to test keeping qualities. A very bright crimson Apple, a seedling from *Devonshire Quarrenden*, not unlike *Sops of Wine*, with the colour permeating the flesh, came from Messrs. Garden, Northampton. An excellent dish of *Plum Coe's Golden Drop* was sent by Mr. Vert, Audley End Gardens, Saffron Walden. The same exhibitor also sent a good seedling *Cucumber* named *Vert's Favourite*. From Mr. J. Day, Galloway House Gardens, Garliestown, N.B., was sent a nice dish of *James Grieve Apple*. This was considered a good addition to the dessert varieties.

Vegetables were not at all well represented. There was a nice lot of *Every Day Cucumber* from Messrs. Sutton and Sons, Reading. This is a nice shapely fruit, very much resembling *Lockie's Perfection*. From Mr. W. Bygrave, The Gardens, Rouse Lench Court, Evesham, came a nice dish of *Peas* named *Charles I.* Unfortunately, the sender gave no particulars as to height. It was sown early in July. *Potatoes* came from two sources; one to show the cooking qualities, as it becomes black when cooked. This was referred to the scientific committee. Doubtless the soil lacked lime. A nice lot of *Tree Tomato* (*Cyphomandra betacea*) came from the Royal Gardens, Kew, but we certainly cannot say much for the flavour. The fruits were gathered from a plant 10 feet high, and growing in a warm house.

The National Chrysanthemum Society's show.—Owing to pressure on our space we have been compelled to hold over the report of the show at the Aquarium till next week.

Gardeners' Royal Benevolent Institution.—We are asked to state that the offices of the above institution have been removed from 50, Parliament Street, to 175, Victoria Street, S.W.

Endurance of Bamboo stakes out of doors.—In reply to "E. T. L." (p. 380), Bambo

stakes are far better than those of any native wood for endurance. I have used them largely in positions where a good deal of moisture is required, such as for Chrysanthemums, either in pots or planted out, and where stakes of any other kind are of very little service after one year. The Bamboos, if taken care of, will last for several years, and although somewhat more expensive at first, are very much the cheaper in the end.—J. G., Gosport.

NOTES OF THE WEEK.

Chrysanthemum King of the Yellows is not a large flower, but possesses a very good shade of yellow, which is an approach to the old and well-known *Jardin des Plantes*, one of the finest golden kinds ever raised, but, unfortunately, a poor grower.

Cyclamen neapolitanum and its variety *album* still provide a pretty display of flowers, the effect of which is enhanced by the beautiful foliage that spreads far and near from the strong corms of this plant. For its foliage alone the plant is worth attention.

Abelia uniflora.—This very pretty flowering shrub still continues to produce numbers of its white, flesh-tinted blossoms. It is a capital plant for affording a covering to a warm wall, the growth being somewhat free and dense, and therefore forming a good covering, irrespective of its abundant and profuse flowering for many weeks in succession.

Cedrus Deodara.—I send you a photo of a tree in the grounds here. It has been planted about sixty years, and is growing in a strong loamy soil. It is 50 feet high, the circumference being 90 feet, and is very symmetrical and well furnished to the ground. Pines grow very luxuriantly here.—T. B. FIELD, *The Gardens, Ashwellthorpe Hall, Norwich*.

Bouvardia jasminoides.—This is one of the most beautiful of the genus and certainly deserving of very extensive cultivation. The purity of the blossoms, as much as their pleasing fragrance, is ever admired, and in any choice floral arrangement the sprays of pure white display themselves to advantage. The variety, too, is of fairly easy culture, and by rooting batches of cuttings in succession from January to the end of April a capital succession of its flowers may be secured during the autumn and winter ensuing.

Colchicum autumnale roseum plenum.—Under this lengthy name I have a pretty Meadow Saffron, which is later in bloom than any others in my collection. I have it in two positions, and when others close to it are quite over, this variety still gives a profusion of its rose-coloured double flowers. To-day (November 7) a small clump looks quite bright, despite the heavy rains which have of late been so destructive to the Colchicums and Crocuses.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Chrysanthemum Lord Cromer.—Among new Chrysanthemums this variety promises to excel. Indeed, it is by reason of its colour quite unique. In point of colour the predominant shade is crimson-scarlet. It is, however, of such a remarkable hue as to give more the idea of vermilion, lightly clouded with crimson, which produces a wondrous light on the surface of the florets. It is one of Mr. Robert Owen's seedlings, and certainly a handsome flower, not one of those monsters that come by cultural excesses.

Aster Tradescanti.—For producing a display of blossoms this is perhaps one of the freest of all the Starworts. It is one of those kinds not suited to the border nearly so well as to isolated positions, by reason of its spreading habit. On the grass such a plant would be very beautiful in effect just now. Indeed, not a few of these things would be very pretty so placed, more so if given a rigid selection of kinds with good treatment. Of course, there are hosts of weeds in the group, but there are others equally precious for the garden that we cannot by any means ignore.

White zonal Pelargoniums.—Among the various subjects on trial in the gardens of the Royal Horticultural Society at Chiswick may be mentioned some excellent white Pelargoniums. These are worth seeing and comparing side by

side by those interested in this class of winter flowers. It is true we may see the self-same kinds at various exhibitions, but in these latter, culture and the undoubted influence of locality carry great weight. On the other hand, side by side in the gardens referred to all receive identical treatment. Several kinds are very fine and exceedingly pure and good in form.

Aster grandiflorus.—A fine bush of this excellent Starwort, the largest and perhaps the finest of all the race, though, unfortunately, too late to be of service in the open ground, was exhibited by the Messrs. Veitch at the Drill Hall the other day. Though too late for the open border, it makes a capital pot plant for the conservatory or greenhouse, and, indeed, in point of beauty and utility surpasses numbers of the more tender subjects that are grown under glass. The large solitary flower-heads are produced on stems surrounded by small blunt leaves that closely resemble some species of *Diosma*.

Hybrid Nerines.—The beautiful lot of hybrid Nerines brought to the Drill Hall from Andoversford by Mr. H. J. Elwes on Tuesday last attracted a good deal of attention. The collection was almost entirely composed of seedlings, and contained many beautiful things in the five or six dozen plants brought to the meeting. In such a number it was scarcely possible to note any of inferior merit, though of necessity not a few exhibited similarity, both of form and colour. As plants requiring but a minimum of care and attention and flowering so long during the dull months of the year, these beautiful Nerines are welcome.

Gazania pygmæa lutea.—The more than usual amount of sunshine of late, coupled with the assisting rains, has apparently given a fresh impetus to not a few comparatively hardy flowering plants. Among this number the above may be cited as flowering abundantly in the closing days of October. Near by also the pure white kind was equally good, while the effect in this instance was considerably enhanced by a display of blossoms from large tufts of the hardy *Plumbago*, *P. Larpentæ*. The bronzed foliage of the *Plumbago* and the blue flowers were in striking contrast to the large spreading flowers of the *Gazania*.

Lathyrus violaceus.—The vagaries of plants in growing in some gardens, while they refuse to succeed in others more likely to suit them, are illustrated by a note I have from Mr. A. K. Bulley regarding *L. violaceus*, one of the Californian Peas mentioned on page 352 of THE GARDEN. While this Pea has been a failure with me and with others, it grew like a weed in Mr. Bulley's former garden at West Kirby, Cheshire. One's regret at being unable to grow it is greatly modified, if not altogether removed, by being told that the flower is poor and that the plant was left behind when Mr. A. K. Bulley removed to Neston.—S. ARNOTT.

Oenothera tetrapetala rosea.—This is one of the most beautiful of the sub-shrubby members of the Evening Primrose family. The plant attains about 18 inches high and is of neat appearance. During summer and for a long time during early autumn the plant blooms very freely, the flowers being among the most beautiful the genus contains. The blossoms at a distance appear of a beautiful pink shade, but closer examination reveals a groundwork of white, with an exquisite rose-pink shade at the edges of the petals. The veins are also of this latter shade and impart a very beautiful appearance to this pretty and useful subject.

Abutilon vexillarium.—This well-known climber has been among the most profuse flowering of wall plants this season at Kew. The example in question is trained to a low wall in front of the Sarracenia house, and though naturally restricted in height, has flowered most abundantly for several months past, and only recently was carrying a fine crop of bloom. The position occupied by the plant is not particularly favoured, while abundant evidence remains that, given plenty of space for its branches, this pretty plant

would prove a most interesting subject in the garden. The drooping flowers of crimson and gold are very ornamental.

Crocus sativus Pallasi of Patras.—Those of us who are unable to flower year after year what is known as the typical *Crocus sativus* will not regret making the acquaintance of some of the forms more amenable to our climate or soil. Here I am unable to flower *C. sativus* after the first year, but some of the varieties bloom regularly. The variety *Pallasi* is one of these, and last year and this a form from Patras has pleased me much. Rather small, pure white on the exterior with the exception of some deep yellow at the base, it looks pretty with its pointed segments. The interior is also white, set off by the scarlet stigmata. These are brighter than in Mr. Maw's drawing of the white variety of *C. s. Pallasi* in his monograph.—S. ARNOTT.

Lithospermum prostratum.—Quite recently this pretty rock plant has sprung into blossom anew, and now the tufts, that have been more or less shabby during the great summer heat, are attractive with numbers of the deep Gentian blue flowers. Occasionally this desirable plant goes rusty and bad in the centre, and when past a certain age is not the most easy of hardy plants to transplant. For this reason it is better to rely upon young plants, numbers of which may be rooted from cuttings inserted now in very sandy soil. One of the essentials for success with autumn cuttings is that they be stripped off with a heel attached and inserted with no preparation beyond the removal of a leaf or two at the base. Frequently when cuttings of this plant are made to a joint they perish, while if inserted as suggested a large number root readily. Small freshly-formed shoots not more than 2 inches long are best.

Lathyrus pubescens.—In the notes on Everlasting Peas accompanying the coloured plate of *Lathyrus pubescens* in THE GARDEN of October 29 I mentioned that I was under the impression that I had received the seeds from Mr. W. Thompson, of Ipswich, but that I could not find these offered in any of his catalogues. I now find that the seeds came to me through the kindness of Mr. W. E. Gumbleton, who had received them from Mr. Ed. André, who introduced *L. pubescens* into Europe. Mr. Gumbleton now favours me with the information that a reduced-sized plate of this Pea as grown in M. André's garden at Lacroix appeared in the *Revue Horticole*, and that the plant figured in the *Botanical Magazine* as *L. pubescens* is *L. tomentosus*. I am grateful to Mr. Gumbleton for this information, which gives me the opportunity of giving due credit to him and to M. Ed. André. It appears that of those who received the seeds from Mr. Gumbleton, I was the only one who was so fortunate as to flower this charming Pea.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Chrysanthemum Henry Weeks.—In your issue of last week you state that a certificate was awarded to Mr. Wells for *Chrysanthemum Henry Weeks*, whereas it was awarded to myself.—H. WEEKS.

The Eucharis mite.—"C." in his note on the *Eucharis mite* at Kelham Hall in THE GARDEN (p. 352), is not quite right as regards the way in which the plants were treated. About an inch of fresh soot was put on the surface of the soil, and then the plants were watered with paraffin and water, a wineglassful of paraffin to two gallons of water. Afterwards the plants were always watered with soot water. No other manure of any kind was given them. After this treatment they were of a better colour than they had ever been.—F. STEADMAN.

Names of plants.—*Midlands*.—*Acanthus spinosus*.—*R. Sydenham*.—*Antirrhinum Asarina*.

Names of fruit.—*J. Pitts*.—19, *Burré Diel*; 22, *Old Colmar*; 24, not recognised; 26, *Easter Burré*; 27, *Clapp's Favourite*; 28, *Pitmaston Duchess*; 29, *Burré Hardy*; 30, *Burré Clairgeau*.—*J. Sigee*.—Apples: 1, *Cornish Gilliflower*; 2, *Yellow Ingestre*; 3, *Scarlet Nonpareil*. Pear: *Comte de Lamy*.

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(Illustrations in Italics.)

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FERNS.

RESTING FERNS.

THE time is now at hand when many Ferns which make periodical growths will, when required to make a good display in early spring, be much benefited if kept quite dormant, withholding water and keeping cool. Drying off should never be done while the plants are making free growth, but after they have well matured one set of fronds and before another whorl has made a start. Some of our best early spring Ferns are obtained by treating them in this way. Take the *Pteris serrulata* section. Those that are kept in a low temperature from now to January and then placed in heat and given a good start, will make much finer plants than those kept in heat and forced into unnatural growth. I have frequently experienced the disadvantage of giving too much heat to Ferns from October to January. Those that make growth during this period do not as a rule make perfect and well-developed fronds, the consequence being that the crown is left very weak, and then it is late in the spring before the plants make a fresh start. Even then they do not start with the vigour of those that have had a natural period of rest. The above remarks are intended to apply to Ferns which are naturally evergreen, but there are several of our most beautiful Ferns which are deciduous, and to keep these in active growth late in the season is disastrous. I believe it frequently occurs that such beautiful Ferns as *Adiantum speciosum*, *A. palmatum*, *Nephrolepis Bausei*, and others are lost through not paying proper attention to their natural period of rest. Sometimes inexperienced growers make the mistake and throw them away for dead after they have lost their fronds.

Leucostegia immersa, one of our prettiest Ferns for summer work, loses all its fronds in the autumn and remains dormant for a considerable time. The earlier the plants are ripened off, the earlier will they start in the

spring. They should be kept cool and moderately dry until they show signs of starting, when they should have more warmth and moisture and be well exposed to the light. It is a mistake to keep Ferns which are naturally deciduous too dry. A moderate temperature and sufficient moisture to keep the underground rhizomes from shrivelling will ensure the best results. It is not safe to rely on the natural seasons to rest Ferns, for when grown under artificial conditions they may be making free growth at the time they ought to go to rest; and then they must be allowed to perfect their fronds, which will mean that the crown will be perfectly developed for making a new start after the proper period of rest, while if ripened off prematurely, the crown will be very weak. Although the plants may make a new start, the fronds will be small, and probably after making a vain attempt to grow will dwindle and die. I believe there are more choice Ferns lost through giving too much heat and moisture during the autumn than from any other cause.

A. H.

Adiantum Farleyense.—Grown in a 6-inch or 7-inch pot this is very useful for vases. Opinions differ as to the best soil to grow it in. I get the best results by using turfy loam, with a good portion of rough sand and a little broken charcoal. It requires good drainage. My plants stand on a stone which covers the water tank in the stove. I am convinced it needs a lot of heat. I have some plants planted out at the warmest end of a stove, where the boiler is, and they are thriving grandly, making large deeply coloured fronds.—DORSET.

Davallia Mooreana.—Among the free-growing members of this race none possess a wider value for general usefulness than this well-marked species. Too frequently, however, the plant is confined entirely to pots, yet it should be apparent by the free running character of the rhizomes that, afforded the opportunity, it is a plant which would quickly cover a large space. To do this, however, a certain surface area is needed that can only properly be afforded when the plant is

grown in a basket. In this way in a warm, moist house the plant grows freely, producing handsome fronds upwards of 3 feet long and proportionately broad. The spreading habit of the species specially fits it for this method of culture.

PROPAGATING BRITISH FERNS.

OF the various methods of propagating, that from spores is the best where this is possible, but there are some fine varieties which never produce spores, and others which, to ensure having them true, must be propagated by other means than spores. However, where spores can be obtained it is always advisable to sow, for seedlings not only make the best plants, but some improved varieties may be obtained. In selecting fronds for spores, those that have only just begun to open the spore cases should be taken, and in the case of the crested or other choice varieties, those with the most distinctly developed characteristics should be selected. Several of our prettiest garden varieties have originated from a frond or portion of a frond that has shown some slight difference from the normal forms. After collecting the spores they should be properly dried before sowing. Although Fern spores will retain vitality for a considerable time, I find the best results are obtained from those that have not been kept long, though I believe it is a mistake to sow directly they are collected.

Good loam is the best material for sowing spores on. This should be prepared by spreading it out and watering it so that all weed seeds may germinate and be eradicated. Care should also be taken that there are no worms in the soil. The pots may be filled firmly to within about half an inch of the tops, a little powdered charcoal and crock-dust sprinkled over the surface, and a good soaking of water given, after which the spores may be sown thinly. If covered with glass and stood in a shady position where it is not too dark they will soon germinate. Spores that are sown during the summer or autumn should be kept in warmth through the winter. In fact, they may be treated much in the same way as the more tender Ferns.

Of *Aspidium* (*Polystichum*) *angulare* there are several varieties which are prolific, that is they produce young plants on the fronds.

A number of bulbils are formed at the base of the pinnae close to the main stalk. If the fronds are pegged down on suitable material roots will be formed and young plants soon established. Although it is possible to propagate from fronds that have been taken off the parent, it is much safer to peg them down and get them rooted before taking them off. Some of the Scolopendriums produce tiny bulbils round the margins of the crested portions of the pinnae. *S. Kelwayi* is an example. These tiny bulbils may be cut off with a sharp knife or scissors. Only a very tiny portion of the frond should be attached. These pricked off and treated similarly to young seedlings and kept in a moderately warm position will soon show signs of growth. The best material to use for the surface of the pots is sand, Sphagnum, and peat chopped up and rubbed through a fine sieve. Some of the Scolopendriums may also be propagated by taking well matured fronds off close to the crown and cutting the lower portion of the stalk (or stipes) into short pieces. Treated as recommended for the bulbils they will form buds and eventually start away, but they are some time before the first fronds are produced, and care must be taken not to get them too wet, or they will decay instead of forming bulbils. The ordinary *Adiantum Capillus-Veneris* may be raised from spores, and all of the varieties are easily increased by division. The beautiful variety *imbricatum* is a curious instance of forming bulbils. I have never seen good spores of this, but in place thereof tiny bulbils are formed round the margins of the pinnules. It is the only instance among all the *Adiantums* that I have seen, though solitary bulbils or plants are in several instances formed at the extreme points of the fronds, as in *A. caudatum*, *A. dolabriforme*, &c.

There is no particular season for propagating hardy Ferns, but spores collected late in the summer usually prove the most fertile, and if sown during the autumn, with care they will go through the winter and will have all the following season before them to get well established and form good crowns before such as are deciduous lose their fronds. A.

ROSE GARDEN.

CLIMBING YELLOW ROSES ON STANDARD BRIERS.

YELLOW climbing Roses are so popular that the so-called white *Maréchal Niel*, which, however, is not white, has been rather coldly received. "P.'s" selection (p. 351), short as it is, calls up mostly old popular favourites. Given a sheltered place "P." says, truly enough, that *Maréchal Niel* will grow into a glorious weeping tree. For many years I grew such trees in quantity.

In addition to sheltered sites, moderate feeding is essential to the longevity and free flowering of climbing Roses. Perhaps it is not too much to say that more Roses are killed by over-feeding than by the effects of frost. A gross diet produces a gross habit of growth in our Roses, and when to these two are added late growth and blossoming Roses become tender. To prevent this occurring, "P." recommends occasionally lifting and replanting these Roses, say once in five years, as a check to excessive growth and a means of increasing the number of the blossoms. A moderate regimen for the roots will provide an equally effective and safer check to growth and aid to flower production. Another curious and interesting change is effected through the growth of Teas and Noisette Roses as standards on the Dog Rose. It is desirable before proceeding further to note the question of the best height for this form of Rose tree or bush. Three considera-

tions should mainly determine this. The first is the artistic effect of Roses of different heights. Rosarians are prone to combine two classes of Roses under the general head of climbing or weeping Roses, while in reality the two are widely different in artistic or landscape effect. *Maréchal Niel* is a good example of a weeping, while *Gloire de Dijon* may be accepted as a good example of a climbing Tea Rose. "P." prefers a stem a yard high. I prefer Dog Rose stems from 3 feet to 5 feet or more high for *Maréchal Niel*.

The second point is the effect of the height of the Rose stem on the hardiness of the Rose budded on it. Some years since I made numerous observations on the hardiness or tenderness of Tea and other Roses, that went to show that within certain narrow limits the closer to the ground the more tender. Hence most Rose growers are familiar with the fact that the frost cuts their Teas down to the ground, or an inch or two under it, while the self-same Roses mounted on Briars from 2 feet to 5 feet or 7 feet high escape unharmed. One more curious thing happens to such golden Roses as *Maréchal Niel* when we mount them on Dog Briars of considerable height. As a rule, the *Maréchal Niel* only flowers once in the open air, even in the more favourable sites. Work it on the Dog Rose 3 feet or more high and it soon begins to bloom, twice or oftener. One more point, and it is perhaps the most interesting and mysterious of all. The older the plants are the more profusely they bloom, until this best of all our yellow Roses practically becomes a perpetual bloomer. D. T. F.

Pruning and propagating Tea Roses.—"D.'s" complaint of the over-pruning of Tea Roses (p. 351) is very often heard. The chief fault to find with many choice Tea and other Roses is that they make so little progress. They are pruned so hard or grow so little that they fail to make any headway. No doubt, as the editor says, the Manetti stock has much of this to answer for, as well as the severe pruning. Teas and Hybrid Teas, as well as most other Roses, are best worked on the seedling Briar or Briar cutting. Even on this strong root stock they are often cut to pieces. It needs many years to teach rosarians that the pruning-knife is mostly a necessary evil among Roses, and not the emblem of either common sense or uncommon skill. When we come to plant our Roses primarily to furnish our lawns, shrubberies, beds, and flower borders, we shall then learn the art of training them better, and pruning them less or not at all. Tea Roses, especially those on their own roots, may generally have pretty free heads. Cuttings of Tea Roses are as readily rooted as those of Currants and Gooseberries. Insert the cuttings, with a heel if possible, about 4 inches deep on a north border, tread them in firmly in rows from a foot to 18 inches apart, and some 80 per cent. of the cuttings will root without further trouble. Tea Roses on their own roots renew their youth if desired every year. It is hardly possible to lose the plants through stress of weather, for if cut down to the ground by the frost one year they recover themselves the next without either loss of stature or of vital force.—D. T. F.

NOTES AND QUESTIONS.—ROSES.

Tea Roses and Mignonette.—Mr. Crook's note on the Tea Roses and Mignonette in the flower garden at Honeycott House (p. 350) reminds me of a fine display I saw at Ossington Hall. A well-sheltered garden was set apart for Tea Roses, and in each of the beds Mignonette had been sown, the two subjects forming a most pleasing picture, to say nothing of the delicious fragrance given off by the Mignonette.—C.

DARTMOOR IN SEPTEMBER.

AFTER the long spell of drought, when, in spite of an occasional shower, the grass remains sere as in August and the great *Hydrangea* bushes droop their wilted leaves along shrubbery and drive, it is a pleasure to seek for a while the adjacent uplands of Dartmoor, the sanatorium of South Devon, and there, at a height of over 1000 feet above sea-level, breathe the fresh heathland air and gaze at the sheets of purple and gold that lie spread beneath the eye—acres upon acres clothed with the purple mantle of the Heather and the bright gold of the Gorse—a pageant of colour that acquires softer and less definite hues as it recedes from the view, and at length, afar, melts into the infinite blue of the atmosphere, nowhere so exquisite as on the spacious moors, that limns distant tor and heath in tender monochrome. No signs of aridity are visible at this high level, for the little pastures or "new-takes," here and there filched from the moor, are emerald-green, and that white sheet that rests like a snowdrift in yonder slight depression is formed of the flossy seed-vessels of the Cotton Grass, growing in a spot where, even after the comparative drought of the season, it is not wise to venture if a dry foot be a desideratum. The streams run crystal-clear around the huge boulders and beneath the rude megalithic bridges built in far-off recordless days by unknown hands, whose only other mementoes are the hut-circles, menhirs, and kistvaens that still exist, scattered over the length and breadth of the moorland, concerning which, so remote is their antiquity, even legendary lore is silent. Here in the shadow the little troutlets lie, ready, at a movement of hand or foot, to speed, like brown streaks, down the sunny stream, while on the flat stone, hard by a bank where diminutive Hairbells hang their tiny cups, the dipper, in modest brown and white attire, pauses a moment to sing its brief song ere taking the water or flying, with rapid wing, to some more distant haunt. When the last glint of the setting sun has faded from the stream and the heavy due is falling, a filmy veil of diaphanous haze slowly rises over its surface. Later on, in the clear moonlight, the vapour assumes a denser appearance and hangs, fleecy-white, along its course. Motionless the white cloud lies through the windless night, until at length, stirred by some zephyr of the dawn, it slowly drifts away to wreath the dew-spangled slopes of the tors with trails of transparent mist, or dissolves beneath the morning sunrays that gild the gossamer.

It has been written by an enthusiastic admirer of Dartmoor that a wet day there is preferable to a dry day anywhere else, and though few, even of its lovers, would be inclined to echo that sentiment, it is undoubtedly true that the due appreciation of its charms becomes possible only by a wide knowledge of the moor in varying conditions of weather and from its highest to its lowest levels.

Perhaps the sudden change in the character of its scenic effects is one of the chief charms of this Devonshire moor, for scarce a mile from its open sweep the deep rifts in its confines hold sanctuaries of soft verdure and rippling waters such as one would look for rather among the gently dimpled valleys of the lowlands than in close proximity to the austere grandeur of the tors.

Here one has the rugged fastnesses of Great Staple Tor towering heavenward, while at its foot the little river Walkham plunges down from the open moorland through Merivale Bridge, and, skirting Vixen Tor, noblest in outline of all the Dartmoor granite masses, meanders, gurgling round the boulders and foaming over cleft rocks, through a deep valley, here overhung by trees, there edged with grassy spaces where the great *Osmundas* arch their lofty fronds, and in the early summer the Orchises paint the sward with soft colour. Now, in September, the berries of the Mountain Ash are clusters of bright scarlet on its banks and the Whortleberries are purple-ripe. Lower down the breadth of the waters widens, and in an open glade, where in the springtide of the

year the Wood Hyacinths spread their shimmering veil of blue, the Bracken growing on the margin already shows here and there a glint of gold, while the berried Bryony trails that hang from the Hawthorn bushes are slowly changing their tints from green to crimson. The Oaks interlace their branches above the boulder-strewn stream, very clear and shallow now, but of a strangely different aspect when in the dark winter days the low skies open their flood-gates, and, amid the thunder of the rolling boulders, the Walkham rushes down in spate, a turbulent brown flood, swirling breast-high round the tree boles and submerging the straining undergrowth beneath the hurrying foam-rifts that fleck its surface.

Many and varied are the prospects afforded by the high-lying downs, but the impressions are ever fraught with beauty, albeit often of a sombre nature. There is the eerie desolation of Cranmere Pool bereft of all vegetation save tussocks of coarse herbage and Rushes; the crease in the moor that shelters the weird, stunted Oaks of Wistman's Wood, gnarled and contorted dwarfs, whose age is measured by centuries, through which of nights the fabled Yeth hounds hunt their phantom quarry; the majesty of the tors, that loom gigantic from the cloud-wreaths "where the wet hill winds weep," or on such a day the glimpse revealed through the eddying mists of Plymouth Sound lying in the sunlight like a silver mirror full fifteen miles away.

S. W. F.

ORCHIDS.

GROWING ORCHIDS IN LEAF-MOULD.

IN the "Dictionnaire Iconographique des Orchidées" of M. A. Cogniaux there is, writes M. Ed. André in *Le Revue Horticole*, a very interesting note relative to the cultivation of epiphytal Orchids in leaf-mould, as practised by M. de Langhe - Vervaene, of Brussels. According to M. Cogniaux, the plants cultivated in this way flower more freely than they do under other ways of cultivation. In order properly to test the virtues of leaf-mould in this connection, it is necessary the plants should be recently imported. They should be placed in a pot of prepared leaf-mould. A stout slab is placed at the bottom of the pot, and the plant is put on a low mound of earth and the surface covered with a thin layer of living Sphagnum. The degree of moisture required to keep the Sphagnum always fresh should be kept up by watering. No other kinds of vegetation—mosses, fungi (microscopic or other) penetrate the soil, and the roots of the Orchids are enabled to draw their nourishment from the mould without the air getting into the pot. The mould, which is well rotted, is composed of 30 per cent. of Oak leaves, 15 per cent. Hornbeam, 15 per cent. Alder, 15 per cent. Ash, 15 per cent. Beech, 10 per cent. coarse sand. The proportions of each of these elements applicable to one or other of the species of epiphytal Orchids now cultivated in greenhouses cannot, however, be precisely laid down; experience will show. The essential thing is to locate the plant in the position which is most suitable to its natural mode of vegetation, and in watering to carefully avoid any excess of moisture; it is enough to give the superficial watering necessary to maintain life in the Sphagnum. If the leaf-mould is well drained success is assured.

* * I should not like to attempt the growing of sub-epiphytal Orchids in what we call leaf-mould in British gardens, but the leaf-mould (terre de Bruyère) of the French and Belgian gardens is a very different thing, and a substance in which most plants, especially the peat

lovers, or shall I say lime haters, such as all the Ericaceae, grow well. The luxuriant manner in which most plants thrive in the continental product is little short of wonderful to those who see it employed for the first time. I have known amateurs so enthusiastic that they imported leaf-mould from Belgium for Heaths and Azaleas, and with good results, though, broadly speaking, our Hampshire peat and Reigate sand seem better suited for these plants as grown under the English system of culture. It must be distinctly understood that Belgian leaf-mould is very different in many ways from our English product, and probably more care and attention are devoted by specialists to its preparation. Given good and ample drainage and a mixture of clean Sphagnum Moss, or even a top-dressing only, as M. André suggests, I can well understand that newly-imported Orchids, especially Masdevallias and Odontoglossums, would do well in the Belgian material. When at Moortehiek last spring I saw superb Odontoglossums and Cypripediums growing so robustly that one instinctively asked, What is the secret; what are the potent fertilisers used to obtain such grand results? M. Lucien Linden turned out a plant or two, and apart from a little extra drainage the material in which they were growing looked like an ideal compost for Fuchsias rather than for Orchids. But I am one of those who believe that if light, air, moisture and heat are right, and there is plenty of diffused light and plenty of fresh, pure, and clean rain-water, the actual compost employed for Orchids is of secondary importance. In a word, the compost is more a vehicle for regulating the supply of moisture and air to the roots than anything else, and for this purpose "terre de Bruyère" is in Belgium as good, or perhaps better, than anything else if surfaced with living Sphagnum in the usual way. At the same time, I should be the last man to advise the growth of any Orchids in English leaf-mould in English Orchid houses, and in the English climate, because all the factors are so essentially different in all ways. After all, "recently-imported" Orchids will up to a certain point grow well in very diverse kinds of composts, other factors being right, but what most Orchid growers desire is a compost that will keep old-established plants healthy and free-flowering for as long a period as possible. For this latter purpose nothing has so far surpassed fibrous peat, crocks, and Sphagnum, with the addition or substitution of the best loam fibre for some of the stronger-growing sub-terrestrial kinds, such as Cypripedes, Cymbidiums, Phaius, &c. When we are told that "the roots of the Orchids are enabled to draw their nourishment from the mould without the air getting into the pot," one feels that one of our oldest and most cherished of traditions as to Orchid culture is endangered. Most of our best Orchid growers act so as to encourage the free aëration of the compost in which most Orchids are grown—the raft, the block, the perforated pot, and the teak wood basket all favour this idea, and experience shows pretty plainly that the idea is correct, as measured by the generally good results obtained.

At the same time, having seen the almost equally good results obtained with Orchids and other rare plants as grown in the peculiar leaf-mould of France and Belgium, I would bespeak a fair and impartial hearing of M. André's point of view. We in England succeed in one way and our French and Belgian friends attain their results by different means; and both have to do their best with the climate and materials with which they have to deal. As M. André himself says, no precise rules can be laid down, but

"experience will show" what is best to do under different conditions.

F. W. BURBIDGE.

Dendrobium superbiens.—Like several others of the Australian section this Dendrobe is not always a success under cultivation, but when well done it is certainly a beautiful Orchid. It varies considerably, some of the better forms ranking among the finest of Dendrobiums and being distinct in colour. Plenty of warmth while growing and a thorough ripening of the pseudobulbs are necessary, and, if this can be arranged, the plants always start more freely and flower more profusely when they take a good rest in early summer.

Cypripedium Allenianum superbum.—This is a remarkably fine hybrid, and a twin-flowered spike I recently noted shows what a beauty it will be when it becomes better known and more plentiful. The raisers of such hybrids render a good service to horticulture. The kind referred to is a cross between *C. Spicerianum* and *C. Curtisi*. It has a splendid dorsal sepal not unlike that of the former, the petals and pouch of various tints of green and brown. No doubt it will be freely propagated, and it should eventually become a very popular kind.—H.

Miltonia Peetersiana.—I noted this uncommon hybrid in flower recently in Mr. R. I. Measures' collection at Camberwell. Its reputed parents are *M. spectabilis* Moreliana and *M. Regnelli*, and not only are the flowers intermediate in form, but the growth of the plant also shows signs of each parent. From *M. Regnelli* it gets the bright purple disc to the lip, while the colour of the sepals and petals is a vinous purple more like that of the Moreliana types of *M. spectabilis*. The plant was exhibited last year at the Drill Hall, when it was given an award of merit by the Orchid committee. It is a welcome addition to the list of Miltonias, as the flowers are neat and pretty, the plant apparently free-flowering and of healthy growth. Probably it will thrive well if treated as advised for *M. spectabilis*, that is given a thin, well-drained compost, an intermediate temperature, with shade from the brightest sunlight only.—H.

Cattleya Maroni.—This is one of the most distinct and charming hybrid Cattleyas that have ever been raised. It is the result of crossing *C. velutina* and *C. Dowiana aurea*, traces of both parents being apparent in every portion of the flower. The sepals, each upwards of 3 inches in length and over an inch in breadth, are yellow, suffused with a bronzy shade of brown; the petals similar in length, of fine form and substance, bright yellow, suffused with a bronzy shade and veined with a purplish hue. The front lobe of the spoon-shaped lip is yellow, heavily suffused in the centre with rose-purple, and prominently veined crimson. The front of the throat is rich yellow, mottled with purple; the small side lobes rose with numerous yellow lines. It was raised by M. Ch. Maron, Horticulteur, 3, Rue de Montgeron, Brunoy, France, while he was gardener to M. Fournier at Versailles, where he was most successful in the raising of seedling Orchids, especially Cattleyas. Such fine varieties as *Cattleya Andreana*, *C. Fernand Denis*, *Lelio-C. Lady Wigan*, and other varieties, which have been frequently referred to in THE GARDEN, were raised by him.—C.

Epidendrum radicans.—This useful and bright-flowering Epidendrum has but one fault, and that is its rather rambling habit. This renders the use of some support necessary, but, this provided, it is a very free and beautiful plant that all cultivators should grow. It has been freely used by hybridisers, and its progeny is in every case I know bright and beautiful plants. The first and perhaps the best known of these is *E. O'Brienianum*, this having *E. evectum* for its other parent, while hardly less known is the bright little *Epiphronitis Veitchi*, obtained by crossing this species with *Sophronis grandiflora*. Several others have been raised since

these, and doubtless as time goes on we shall see many of our best Cattleyas and Lælias crossed with it, these having already been used as seed-bearing parents with effective results. It comes from South Mexico, and is one of the introductions of Mr. G. Ure-Skinner. Under cultivation it delights in a fresh, moist atmosphere with abundance of air moving about it and not too high a temperature. Where the little stem-roots have the chance of rooting into whatever is used for the support of the plant, stronger growth results. But this is not absolutely necessary, especially if the base is planted in a good compost and kept in order. The blossoms are very bright red with an orange centre, and are produced in small terminal corymbs.—H.

Angræcum bilobum Kirki.—If the flowers I have noted as this variety for several years are true, it is difficult to say why it was ever given varietal rank, for I have noticed but little difference in the two, and if anything the typical plant is the better. The flowers are small, pure white in front, the spur of the lip tipped with orange, and they are produced freely upon spikes containing about half a dozen. It is a pretty plant when well grown, and for its culture requires a warm moist house, with ample light. Grown in small baskets or pans suspended from the roof it has a pretty effect when in flower. The species is a native of the west, and the variety the east coast of Africa.—H. R.

NOTES OF THE WEEK.

Polygonum capitatum.—This very pretty species is a most continuous bloomer and one of the most suitable for the rock garden, where it blossoms as profusely as ever. The plant has never ceased flowering for many weeks and the singular little heads are very attractive in a mass.

Rosa indica sanguinea.—Masses of this richly coloured Rose are still gay with almost endless buds and many expanded blossoms, the former especially rich and well coloured, and, owing to the lessened sunlight and heat, they remain long in the bud stage. It should be more freely employed because of its abundant and long-continued flowering.

Begonia President Carnot.—This free-growing variety is valuable for late autumn flowering, and, though not one of the most brilliant in point of colour, is sufficiently attractive and free-blooming to merit general approval. In the manner of growth and flowering it bears comparison with *B. coccinea*. The blooms, however, are less brilliant than in that species.

Nymphaea Lotus rubra.—Among the tropical or sub-tropical aquatics this is a most desirable kind, and one that pleases when in flower by reason of its colour and also the size of the blossoms. The variety, too, is rather free flowering, and where blooms of this character are especially valued, this one at least should always be grown where a stove temperature can be maintained.

Funkia subcordata.—I am surprised to learn that J. H. W. Thomas, Belmont, Co. Carlow, has failed to flower *Funkia subcordata grandiflora* out of doors. It seems quite established in a sunny part of the rock garden here, and has bloomed well both this season and last. The winter of 1897-98 was certainly very mild, but I find a covering of ashes quite sufficient protection for it.—M. KINGSLEY, *Bourne Orchard, Hertford.*

Momordica cochinchinensis.—This brilliant fruiting climber may now be seen in the stove aquatic house at Kew bearing several large highly coloured fruits. In shape the fruits are roundish ovate, of the size of a large Melon, and thickly studded over the entire surface with rather blunt-pointed prickles or spines each nearly, or quite, half an inch in length. The fruits are conspicuous by the rich red-vermilion colour of the exterior, the spines being also of the same vivid colour.

Hedychium flavescens.—The beautiful primrose tint in the flowers of this species affords a most pleasing and welcome variety among these moisture-loving plants of the tropics; and not only welcome in point of colour, for the fragrance is also unique, that from a spike or two naturally,

however, containing a larger number of individual flowers, being sufficient to pervade quite a large space. Vigorous and quick-growing by nature, these plants are best suited when the proper conditions of heat and moisture are given. Given these, the details of culture are simple.

Erica vagans alba.—The white Cornish Heath has been in bloom here for an unusually long time, and to-day (November 14) is still giving a good display of flowers on the summit of the rock garden. Left undisturbed for several years a plant soon grows to large dimensions, and even when out of flower its evergreen foliage is pretty. The hardy Heaths have often been commended in THE GARDEN, and the coloured plate which recently appeared cannot fail to bring them under the notice of growers of hardy plants who have overlooked their beauties.—S. ARNOTT.

Androsace lanuginosa.—Although November has now half run its course, the silky-leaved Rock Jasmine is still in flower, giving a welcome feature with its silvery silken foliage and its pretty flowers. It has been frequently mentioned in these columns, but one can hardly over-praise it because of its prolonged period of bloom. Such flowers are very precious in our rock gardens because of the pleasure they give for so long a time. I do not find the variety *Leichtlini* possess this quality to the same degree. Pretty though it is, it lasts a much shorter time in flower.—S. ARNOTT.

Benthamia fragifera in fruit.—I am sending a few fruits of *Benthamia fragifera* from a tree growing here on a south wall. The tree is 15 feet high and about as much through. There were two trees here until the hard winter of 1894-95, when one was killed and the present one much injured. It has not fruited since until this year. I do not remember to have seen it fruit so well before or the fruit so fine. The birds have started eating the fruit and I fear will soon clear it.—JAMES WEBBER, *Dimster Castle Gardens, Somerset.*

* * * The largest and most beautifully coloured fruits of this shrub we have seen.—ED.

Crocus longiflorus.—Dull days and leaden skies do not suit the Crocus well. It is seen at its best on bright days—never too plentiful in November. Yet patches of some of the Crocuses even if unopened look, if not gay, at least cheerful among the Saxifrages and other dwarf plants in the rock garden. One of the brightest of these in this state is the old *Crocus longiflorus*, which is cheap enough to be planted freely where others can only be planted in ones or twos. It increases fairly rapidly, too, so that one can soon have nice patches from a few corms. The bright lilac flowers please everyone at any time, but the pleasure is increased should a sunny day come when the flowers expand and entice the few adventurous bees which have dared the weather to scramble among the Crocus cups. A sunny, sheltered position in light soil suits this Crocus well.—S. ARNOTT.

Border Chrysanthemums at Kew.—Near the Victoria Gate entrance to the Kew Gardens may now be seen the remnants of a very fine display of border Chrysanthemums. Some of these are not usually planted out, and are, therefore, deserving of notice. Of this portion the best is a very old kind—*Gloria Mundi*—a variety well known, and in its day justly esteemed for its very fine colour. It is barely 3 feet high and incurved, the colour rich golden-yellow. Mrs. A. Le Mout is a single-flowered variety of a crimson-amaranth shade, 2 feet. Mary Anderson, another single, 2½ feet, white and lilac; and Miss Rose, single, about 20 inches, with a perfect mass of its rosy lilac blossoms, are very showy. Other kinds used are Harvest Home, 2½ feet; President, amaranth, 3 feet; Golden St. Thais, 2 feet, of good colour, but not so effective as *Gloria Mundi*. These with General Hawkes, G. Wermig, and Fred Maronet were all disposed in large wedge-shaped blocks around a circular bed. A few kinds were past, and among them the two last named. The remainder, however, were

good save *Sylphide*, a yellow which is too late, as it was only opening in the early days of November, too late for ensuring a good display in ordinary seasons.—E. J.

Luculia gratissima.—“C. N.,” writing of this plant in your issue of November 12, says, “when the bloom-trusses are expanding in spring.” Here there are four plants, which may almost be called small trees, of *L. gratissima* reaching quite to the roof of the conservatory, but they are beginning to flower now, and I have a note that last year they were in their fullest beauty on December 12, when all the trees were covered with the large *Hydrangea*-like trusses of bloom and lighting up the conservatory at the darkest time of the year. By the new year the flowering period is almost past, and they are then soon after cut back to mere poles to repeat the flowering process next winter. Does *L. gratissima* usually bloom in spring? Here I find it most valuable in affording abundance of sweet-smelling cut flowers at the dulllest time of the year. The trusses will not travel, but if taken at once from the conservatory and placed loosely in bowls of water they last two or three days, and are very fragrant at first.—SHERBORNE.

Crinum Moorei.—This is one of the handsomest of the genus, or at least that section of it having any pretensions to hardiness. It is, however, only hardy in very favoured positions, or where special attention is given to a few such things that may be flowered in the open by such means. Such opportunity, however, is always offered where large glass structures exist, and here on the northern side, by reason of the uniformity of the conditions existing, such plants are usually a success. On the southern side of such a building there is a danger of the subjects starting too early and being checked by spring frosts. This, however, does not necessarily apply to this plant, which under these conditions is capable of making a really fine display in the open, the stout, almost massive scapes reaching fully 3 feet high and bearing numbers of the handsome drooping flowers, the latter white, heavily tinted with rose-pink. The vigorous nature of the plant, however, requires a good as well as deep soil. Equally good is the plant when grown in the conservatory or cool greenhouse, where it should either be grown in tubs or planted out. If grown in pots, these should be strongly banded with hoops of iron to prevent the bursting so common with such free rooting subjects.

Dianthus superbus var. sinensis.—The variety here named is calculated to enhance the value of one of the most free-flowering species of Pinks, viz., *D. superbus*, a kind long known to the cultivator of hardy flowers. The flowers of the newcomer have quite a new and distinct shade of colour, which may be described as a purplish mauve hue. The variety is wonderfully free-flowering, singularly delicate and pleasing in its delightful fragrance, and not less beautiful in the heavily fringed character of the flowers. Plants of this beautiful fringed Pink have flowered this season at Kew, where in sandy soil it has reached more than 2 feet high, and owing to the much-branched character of the inflorescence, is remarkable for the great profusion of its flowers. In these respects it resembles some other species of the same genus, which flower so abundantly in lowland gardens as to rarely survive the flowering unless special means be taken to obviate this. Doubtless, however, under certain conditions of culture plenty of seed will be forthcoming; this, however, is by no means the case at Kew, for this year at least. The conditions best calculated to ensure a crop of seed will be by treating the plant as a biennial, raising the plants in June or July, and, when planted out, not permitting them to flower at all in the first year. By thus deferring their flowering period a stronger tuft would be secured and probably an early flowering the year following, and in turn the chances of a good crop of seed ripening earlier. These fringed Pinks are usually most secure when the plants are grown in a comparatively poor soil.

STRATHFIELDSAYE.

STRATHFIELDSAYE, the Hampshire residence of the Duke of Wellington, lies on the high road about midway between Basingstoke and Reading, in Berks. It is about a mile from Heckfield Place, six from Winchfield, and three from Mortimer, on the Reading and Basingstoke line. It stands in a valley and beside a stream, for the river Loddon flows along in front of the mansion at a few hundred yards distance, and, broadening out just there, presents fine opportunities for water gardening, such as is now so popular. The illustration which shows the mansion front and the parterre flower garden exhibits in a marked degree that characteristic homeliness which differentiates it so much from architects' gardens. The parterre garden may be formal, as all such gardens more or less are, but every effort is made in the planting, whether in summer or winter, to deprive it of

Lilies, indeed flowers in rich luxuriance, whilst other beds or masses of shrubs or ordinary hardy or tender plants fill the intervening space. The two very fine *Araucarias* seen in the picture are but duplicates of others at the corresponding end of the garden.

Strathfieldsaye is very rich in noble trees, especially conifers. The grand specimen of *Wellingtonia* planted by a former duchess is without exception one of the tallest and noblest in the land. Possibly it has no equal. There is also a grand companion tree in a *Picea Nordmanniana*, which is of its kind perfect. But there are many others, for the rich alluvial soil of the Loddon valley seems to suit these trees remarkably well. Many noble trees are found that are far from common. Whilst the entire area of pleasure-grounds is very extensive, the whole is well kept and cared for. A very interesting feature is seen in the broad noble avenue of Yews that leads to the mansion, as

CHRYSANTHEMUMS.

CHRYSANTHEMUMS FOR HOME DECORATION.

DESPITE all that has been or can be said against the growth of large, well-developed flowers otherwise than for exhibition, there is no question about their beauty at this season of the year. But some of the famous exhibition kinds are absolutely useless for decoration. I do not grow for exhibition, but I like to have flowers as perfect as possible, and to this end cultivate those that look as well on the plants as they do on the show-boards, or rather look much better. As I anticipated some weeks ago, my flowers are well up to time and of better quality than usual, and this shows that the season has been not altogether a bad one, though, as my neighbour Mr. Tallack points out, insects of all kinds have been abundant



The terrace garden at Strathfieldsaye, Hants. From a photograph by Mr. F. Mason-Good.

that defect and to avoid flatness. In the summer the majority of the beds are planted in the now much accepted mixed fashion, so that whilst no special colour or plant stands out markedly, there is a pleasing blending of colour and of form of growth that renders the beds exceedingly attractive. These are grouped on diverse levels to accommodate the natural fall of the land towards the river. The flower garden, though described as "terrace," is, as the illustration shows, void of balustrades, gravel walks, and other not always pleasing garden features. The flowers rise out of rich green turf. Somewhat remote from the house, and in the midst of belts of lofty trees and shrubs, is a more modest flower garden, of which one end is presented on page 407. Here, where lofty masses of shrubs shut out all else, the flowers constitute a primary feature. The two ends of this garden are of circus form, and each has beds filled in summer with *Begonias*, *Fuchsias*,

also is another in the fine avenue of *Wellingtonias* planted within the park beside the entrance road from Heckfield Common, where in all its solitary grandeur stands on a lofty column a statue erected to the memory of the founder of Strathfieldsaye, the famous Iron Duke.

The fruit and vegetable departments are both extensive and well cared for. The walled gardens with long ranges of glass offer to a gardener much the severest tests of his ability, and at Strathfieldsaye they well come out of the ordeal. About in the borders, however, flowers are largely grown, *Carnations* especially being grown in thousands, as also are hardy flowers of many descriptions. Great attention is given to early spring flowers, also to the flower beds, and the preparation of these occupies much space and labour. The *Chrysanthemum* is a prominent feature, and many hundreds are grown in pots.

A. D.

and active, and the leaf-rust has been far too much in evidence. White varieties are always in demand and always admired, and there are many good ones. *Mme. Carnot* is an exhibition kind pure and simple, and though I have grown it since its introduction, I have never liked it, and shall discard it altogether this year. *Mutual Friend* is one of the most lovely *Chrysanthemums* ever sent out, and one cannot but wish it had a little better constitution. It will throw four or five splendid flowers from a plant in a 9-inch pot, but the foliage is apt to suffer unless very carefully grown, and for the purpose indicated one wants every leaf good down to the pots. According to my experience, this variety should be struck fairly early, say about the middle of December, and cut down in April. Take up three or four shoots, according to the strength of the plant, and allow one flower to each shoot. *Emily Silsbury* is a very fine white kind, rather too early in most

seasons, though not far out this year. It is a good grower and will finish at least a half-dozen fine flowers on a plant. Miss Elsie Teichmann is one of the finest whites, the flowers with broad curling florets, and the habit dwarf. As it retains its foliage to the base it is one of the very best for decoration. The old Elaine and Mlle. Lacroix are chaste and beautiful kinds still worth a place. Among yellows none is more beautiful than Edith Tabor, the long beautiful florets being very elegant, but the tall, spindly habit spoils it. The well-known Phœbus is good for decoration, so is Mons. Pankoucke, one of the finest of exhibition kinds. Lago Maggiore I have not grown, but intend to; I saw it recently at Livermere, and Mr. Tallack thinks highly of it. Leaving out the Vivand Morel section, of which all are good, but especially Chas. Davis, I will at the risk of being tedious mention one or two others that are excellent for decoration. Mme. Marie Ricoud is good in every way. Eda Prass is unrivalled in its soft tinting, though perhaps a little stiff. Dorothy Seward is a pretty bronze that should be taken earlier than most to allow the large blooms time for their full development. G. C. Schwabe is one of the finest; always leaved well down if carefully grown, and the flowers sit on quite a cushion of foliage. John Seward and C. Shrimpton are of the best in their respective colours, and Miss Dorothy Shea is a refined and pretty flower. International, much as it has been decried, is a large handsome flower when at its best, and Thomas Wilkins is a fine free doer that should be grown by everybody. To those who want perfect flowers quite up to exhibition standard without enlarging their collection by taking up all the new varieties as they come out, I can recommend the above.

Respecting leaf rust, there is not, as far as I can see, any advantage in making the house smell like a gasworks by using sulphide of potassium about the plants. Any ordinary insecticide will prevent the spores flying about where it is brought into contact with them. A more likely means of preventing its spreading would seem to be syringing the bases of the plants and young shoots with a half ounce to the gallon solution, and clearing away to the fire all the old stems and foliage as soon as possible. Wherever sulphide is used, great care is necessary that it does not reach white lead paint in the house, or black, unsightly spots will result. SUFFOLK.

NEW WHITE CHRYSANTHEMUMS.

EVER since the days of Elaine, Fair Maid of Guernsey and Lady Selborne we have been adding to the list of fine white Chrysanthemums, and it seems doubtful if we shall ever surpass Mme. Carnot as a flower, although long experience only tends to prove that in Chrysanthemum matters it is never safe to prophesy, for it is always the unexpected that happens.

In late years there have certainly been some very grand additions to the many fine white Chrysanthemums in cultivation, some of which, however, seem to have passed away from the show boards, but are carefully preserved for other purposes by growers whose object is more to make an effective display, like those we see at the parks, than to grow solely for exhibition. Mlle. Thérèse Rey, Baronne Ad. de Rothschild, Souvenir de Petite Ami and Mrs. J. Lewis, which was one of the finest and largest last season, are all fairly well known, and the same remark applies to such varied forms and shades of white as are to be found in Mme. Gustave Henry, Mlle. M. A. de Galbert, Antoinette, Mlle. Lucie Faure, Mme. Ferlat, all of M. Calvat's raising, and all more or less good. Simplicity, Mutual Friend,

Lady Byron, Miss Nellie Pockett, Mme. Madeline Expulson, and M. Louis Remy are constantly being met with this season, as also are Mrs. H. Weeks, Emily Silsbury, and one or two others equally well known. Although it met with little recognition at the floral committee of the National Chrysanthemum Society, I cannot help thinking that the very pure paper-white sport from Reine d'Angleterre called Miss Mary Leschelles is deserving of some attention, and will be acceptable to many growers, and that Jane Molyneux, shown at the same meeting, if not of the same purity of tint, is also destined to occupy a prominent position next season. Others, like Abbé Brosson, Dr. Noel Martin, Marie Calvat, Mrs. Bissett, Fée du Champsaur, Mme. Frederic Daupias, and Beauté Grenobloise are less well known than the preceding, but have been seen in fairly promising form. C. H. P.

CHRYSANTHEMUMS AT SWANLEY.

MESSRS. H. CANNELL AND SONS have usually a very large and interesting collection of Chrysanthemums, and this year's display is in no way below the average both for quantity and quality. The major portion of the Swanley novelties is housed in a large span-roofed greenhouse and is effectively arranged for the purpose of showing the blooms off to the best advantage. Here, as at most of the trade displays, novelties may be seen in abundance. The once well-known raiser, M. Simon Délaux, is represented by a set of curiously striped and spotted varieties, which, although somewhat novel, are by no means likely to excite much admiration by the ordinary English grower for cut blooms who still requires the heaviest and largest blooms that it is possible to get for his purpose, and it is largely upon the requirements of such customers as these that the trade of the importer depends in these days. Several other of the French raisers are well represented. Very pretty indeed, in some cases absolutely charming, novelties may be discovered amongst the new things of 1898, but their merits in this respect are overshadowed by their want of size, and therefore they will hardly be noticed by most of the big bloom admirers whose name is legion, and whose opinions seem to be final in adjudicating upon the novelties of the season. Of late years M. Ernest Calvat has made rapid strides in the supplying of such new Chrysanthemums as are now fashionable, so much so that there is hardly anyone of his fellow-countrymen that seems able to compete with him. Many of his flowers occupy, and will undoubtedly continue to occupy, a foremost position on the show-boards, and those of this season form no exception to the rule. Among recent novelties from this raiser, Messrs. Cannell have on view M. Fatzer, a very large, deeply built Japanese incurved, close and compact and solid, colour rich golden yellow. Topaze Orientale is a lovely pale yellow incurved, of fine form, deep and regular in shape. Mlle. M. Expulson, a large white Souvenir de Holmes, is bright brick-red tinted and tipped with gold. In very rich shades of colour, Mme. Rob. de Massy is of a deep velvety purple with silvery reverse, a Japanese, large and deep in form. Le Grand Dragon, a fine Japanese of deep golden yellow, has already been mentioned in the National Chrysanthemum Society floral committee's report. Mélusine, very long drooping florets, white, shaded purple, is big and deep. Sardou is not large for an incurving Japanese; it has grooved florets of a reddish shade inside with reverse of gold. A fine yellow is to be found in Tatiana, which has long, drooping, narrow florets, and is of a beautiful shade of golden canary yellow. This promises to be quite an acquisition. Iserette, golden bronze; Président Nonin, Australian Gold, Beauté Grenobloise, white; Congrès de Bourges, Mme. Ferlat, N.C.S. Jubilee, a fine pale silvery pink; M. Massange de Louvrex, yellow; and the peculiar green Mme. Ed. Roger are all a season older than the preceding, but by no means the worse on that score. General Paqué is a very fine new yellow Japanese,

and from the same set comes Marie Calvat, a big white Japanese, slightly tinted. There are many other varieties from this source, but we have said enough to give an indication of their merits.

From other Continental sources a special note should be made of the white sport from Mrs. C. Harman-Payne called M. Louis Remy, the colour of which this year appears to be purer and better than when we saw it last. Mme. La Colonel Germer Durand is white, lined and streaked purple, and Mme. W. J. Budde, rather prettier than the preceding, a Japanese with long drooping florets, colour white, streaked rosy purple. Globe d'Or and Triomphe d'Eve are two of the old incurved type, and are fairly well known. Emile Nonin belongs to the same section, and is of a deep golden chestnut and distinct. Mme. Berlat is a Japanese incurved, very full and double, with narrow grooved florets; colour deep silvery lilac-pink. In the hairy section Leocadie Gentils seems to do well; the colour is very pale clear yellow, and a companion flower may be found in M. Piquemal de Rozeville, deep crimson with gold reverse. Yvonne Desblancs is another finely incurved continental variety, large in size and of excellent form, colour pure white. Ami Brouillet is of a very pretty shade of pale pink, and a choice little Japanese that does credit to its raiser. We might also briefly mention Mme. Fred Daupias, creamy white; Mme. Gab. Debrie, lively flesh-pink; Mme. Bonnefoy, lilac-mauve, and several others. We are, however, not unmindful of the special claims of our kindred across the sea in far Australasia, and this is the first year we have had such a capital opportunity of seeing so many colonial novelties at once. Welike Mrs. J. T. Tibbs, a pure white sport of Lilian B. Bird, and also Mrs. H. B. Higgins, a fine large white Japanese of a pure creamy shade, very delicate and soft in tone. Mr. T. Carrington is a fit companion for such monsters as Australia and Pride of Madford, to both of which there is a slight likeness. Miss Mary Underhay is a Japanese incurved of very good build; the florets are of medium size, regularly incurving, grooved and ribbed on the reverse, a lovely thing in colour, being a rich buttery yellow. Purple Emperor, as its name implies, is grand, velvety purple and silvery pink reverse. Wonderful, of the Wheeler type; Euterpe, rosy mauve; Nellie Pockett, white; Mrs. Bissett, S. Kerslake, Jun., pure white, and Miss Vera May Fraser, lovely shade of terra-cotta, exhaust the space at our command for this group. Among home-raised Japanese of varying shades of yellow, Edith Tabor, Ella Curtis, Baron Tait, C. F. Payne, and the fine Carnot sport Mrs. W. Mease must not be forgotten. Lady Hanham, the beautiful Vivand Morel sport, is also first-rate; and in whites we get Mrs. H. Weeks, Lady Byron, and Kathleen Rogers, a Japanese incurved of good size and substance. Swanley Giant is big and solid, a Japanese incurved of deep rosy pink. Then Mrs. A. Cross, somewhat similar in build, but of a deep golden yellow, is a rather large bloom, but of these we have enough and to spare.

American novelties are not numerous, but most of the older sorts are well done, and are already in general cultivation. New pompons and Anemone sorts seem also to be almost wholly neglected, while the Japanese and incurved sections alone seem to engage the attention of the raisers.

Chrysanthemum Sœur Melanie.—This excellent second early variety has now been many years before the public, but I question if there is a more useful kind in cultivation for outdoor flowering, for under the most rough-and-ready system of culture, such as is accorded to ordinary market flowers, it produces a wealth of bloom that is really astonishing. I have at the present time some old clumps that have stood in the same position for three years, and have spread out into great circular patches. During the intense drought that prevailed up to the end of September they looked as if they would be quite dried up, but directly rain fell they began to revive, and are now completely covered with finer blooms than

those of the same variety grown in pots. This variety when first expanded has a decided pink shade, but soon turns to a pure white; in fact, if placed under glass it soon becomes one of the purest of white varieties, well adapted for wreath making. It is also especially suited for open-air culture, as it sends up abundance of shoots

upon them, but a defect of many is that they have quite semi-double flowers; hence they lack that charm which is so perceptible in true singles. Generally flowers that have two or three circles of petals pass muster if they have clean, bold eyes or centres, and if these be lacking, a little pulling of objectionable petals soon puts them right.

CHRYSANTHEMUM NOTES.

As regards novelties, the present season promises to be of more than ordinary interest. A novelty, to find ready acceptance by growers generally, must possess some distinguishing characteristic—the form of the flower or its colour, or the ease with which it can be produced in good form, and perhaps its height; each point is a commendation, and assures for it a trial for one season at least. The present season's novelties in many instances are represented by flowers of high quality.

The varieties introduced by M. Ernst Calvat this season are of a high order of merit. One of the first to flower was *Le Grand Dragon*, an immense Japanese bloom, with very long and pointed petals of medium width, of a deep rich yellow colour. Like many of this raiser's varieties, this plant is one of easy culture, and also succeeds well when propagated late and flowered on single stems in 6-inch pots. *Mme. Couvat du Terrail* should also prove a fine addition to the Japanese, early flowers developing cream-white, passing to white with age. The petals are very long, prettily curled at the ends. The blooms are developed on long, stout foot stalks. In M. Fatzer we have one of the most promising of this year's set, and this appears to succeed very well under the orthodox treatment. In 6-inch pots the blossoms open kindly and are of large size, with long petals of medium width and splendid substance, slightly twisting and incurving at the tips. The colour is a distinct shade of deep canary-yellow, with a paler reverse, and the flowers when finished make splendid exhibition specimens. The height is about 4 feet. Other good sorts from the same source are *Mrs. T. A. Compton*, white, shaded lilac; *President Bevan*, a lovely buff-yellow and of considerable promise; and a superb soft rose variety named *Marie Calvat*, opening somewhat earlier than some of the others.

From other sources we have a lovely straw-yellow sport from *Mrs. W. H. Lees*, and, knowing the value of the parent variety as an exhibition flower, it is pretty safe to state this new sport will be in large demand. *Madeleine Davis* may be described as a silvery white, tinged throughout with rosy violet, this colour deepening at the edges. In shape the bloom is not unlike *Phœbus*, but with longer, broader, and more tapering florets. *Rayonnante*, exhibited at the recent October show of the National Chrysanthemum Society, is rather unique in form and colour. The florets are very long and stiff and of a pleasing colour of deep flesh-pink. The flowers are of immense size, and are developed on plants about 5½ feet high. A handsome flower is *Mr. F. Brewer*, said to be a seedling from *Viscountess*



In the grounds at Strathfieldsaye, Hants. From a photograph by Mr. F. Mason-Good. (See p. 405.)

from the base and is not liable to die off during winter or spring.—J. G., Gosport.

Single Chrysanthemums.—A very successful grower and exhibitor of these pretty flowers finds it is not difficult to save seed and raise his own plants; hence he usually exhibits in a box of twelve varieties quite half of his own seedlings. There are so many of these singles under name in commerce that it may seem difficult to improve

Still, none excel those which produce flowers devoid of imperfection. For home decoration of any description, none of the Chrysanthemums excel the singles for grace and elegance. The flowers well repay moderate disbudding, because they are then so much finer and more perfectly developed. It is but needful to observe a box of good blooms gracefully set up to realise how charming they are for cutting.—A. D.

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Hambleton, with broad petals loosely incurving; colour deep golden yellow, paling towards the edges, with a pale straw yellow reverse. Soleil d'Octobre, although introduced last season, has been exhibited in fine form; it is of a lovely canary-yellow colour. Another October sort is Mrs. A. Cross, a rich citron-yellow, and a fine full flower; the florets are long, broad, prettily twisted, and the habit is dwarf. Mme. Louis Remy, the white sport from Mrs. C. Harman-Payne, early in the season was anything but a pretty white, but later buds are now developing blossoms of the purest white and free from much of that coarseness which usually characterises the flowers of this type. The long-looked-for pink sport from Mme. Carnot has at last appeared. The blooms are now fast opening and the florets are of the desired colour. A flower very much resembling in colour E. Molyneux is said to be a sport from the once popular President Borel. As seen, the blooms are very taking, and as this is a plant of easy culture, it is safe to assume it will be a popular kind. A graceful spreading flower is Mrs. L. Humphrey, which opens somewhat similar to a yellow Chas. Davis, but with a deeper-coloured centre, the exterior of the bloom being a lovely straw-yellow. The length of the petals is remarkable, and these are forked at the ends. The plant is rather a weak-growing sort, and usually attains a height of about 4 feet. Joseph Chamberlain is opening most kindly, its bright glowing crimson florets with golden reverse making a striking flower.

There are two or three earlies deserving special notice, the first of these being a lovely soft yellow sport from Queen of the Earlies. For market work and for early conservatory decoration this is sure to be largely in demand. Crimson Marie Massé is also a fine addition, and those who know the freedom of the parent variety will at once appreciate the value of this bronzy crimson sport. Louis Lemaire, the bronzy red sport from M. G. Grunerwald, is an acquisition, and an ideal plant for August and September displays. Of May Manser, the ivory-white Japanese, too much cannot be said. This variety should oust the once popular Mme. C. Desgrange. D. B. CRANE.

CHRYSANTHEMUMS AT EARLSWOOD.

LAST season Mr. W. Wells, of the Earlswood Nurseries, Redhill, certainly had the finest, if not the largest, trade display in the vicinity of the metropolis; and we were therefore not at all surprised to find that his present show of the popular flower is in every way up to his reputation. The collection is housed in a very large glass structure something like 150 feet by 25 feet, having a large central bank with two faces, together with a border round the sides. Most of the plants belong to the Japanese section and are of quite modern introduction, a striking and interesting contrast to the displays in the parks, for the visitor is constantly coming across something new and novel to arrest his attention. Very fine in the Japanese incurved class is Mme. Desblanc, with narrow pointed florets, globular in build, and of a lilac-mauve colour passing to white. Souvenir des Norgiots is a Japanese Anemone of a rather peculiar shade of cinnamon-buff with a centre of deep yellow. We noticed, too, that the pale yellow hairy novelty, Leocadie Gentils, is coming very good, and amongst other novelties from miscellaneous sources Mme. Gabriel Debrie, pure pale flesh colour, a big Japanese incurved, and a very delicate colour, is likely to be heard of again. Purple Emperor, a lovely velvety purple Japanese of Australian origin, will make a worthy companion for some of the other introductions from Great Britain over the sea, a special note of which we may give somewhat later in the season. Princesse Hélène is a Japanese with very long drooping florets, a great favourite with the French exhibitors, colour pale creamy white, and quite as good as we have seen it on the Continent. A very beautiful soft pale yellow incurved is found in Topaze Orientale,

and Yvonne Desblancs is another pure white and of perfect build. Emile Nonin, deep golden chestnut, also belongs to the same section. Fairly well-known novelties that are well done and need only a passing mention are Simplicity, Mme. Carnot, Mrs. J. Lewis, Mme. Ph. Rivoire in whites. Then there are some very good blooms of G. J. Warren, the yellow Carnot sport, and the pale sulphur Mrs. W. Mease, which claims the same parentage. Lady Hanham, the Vivand Morel sport, and Mrs. J. W. Barks, a fine deep golden-bronze sport from Edith Tabor, are both worthy descendants from popular favourites. Mary Molyneux, pale silvery pink, large and promising, was seen last season in very grand style. W. Towers, with medium-sized narrow florets, pale canary-yellow; Ella Curtis, deep golden yellow; and Mrs. Hunter Little, with long narrow florets, but rather thin, were also attractive. Mrs. G. W. Palmer is a rich purple-bronze, and M. Louis Remy, a pure white, are sports from Mrs. C. Harman-Payne and equal in size. Joseph Chamberlain is deep chestnut-crimson, reverse golden, very compact, and of the incurved Japanese type. Of Calvat's seedlings, Mme. G. Bruant, introduced last season, is richer in colour than we have seen it elsewhere, for instead of being almost white it is of a fine shade of pale purple-mauve, paling off to white in the centre. N.C.S. Jubilee, delicate silvery pink, is good. Surpasse Amiral is a large deep golden yellow. Dr. Liébert is another large one, having narrow florets curly at the tips, pale pinkish mauve. Iserette is also good in colour. M. Hoste, President Nonin, Werther, Mme. Gustave Henry, Congrès de Bourges, Mme. Ferlat, Australian Gold, the very curious green Mme. Ed. Roger, and Mlle. Lawrence Lédé, all recent introductions, have already been seen in more or less good form last season or before.

But dealing exclusively with his novelties for the present year which have not been seen in flower in this country before, the most meritorious in his set are undoubtedly President Bevan, a fine large solid Japanese incurved, with broad florets, colour deep golden buff; Mlle. Madeleine Expulsion, a deeply-built bloom, with florets sharply pointed, twisted and intermingling, colour pure creamy white; Marie Calvat, a very large, but rather rough Japanese, with long straggling tubular florets, white, tinted purple; M. Fätzer, Japanese incurved, with medium florets, deep golden yellow, outer florets tinted bronze; Mme. Couvat de Terrail, large, but flat, a Japanese, colour white, and General Paqué, a fine Japanese, with flat drooping florets, colour deep golden amber, with golden reverse, and of which a coloured illustration was given in M. Calvat's spring catalogue. Mme. Bertet, white; Melusine, rosy white; Mlle. Gab. Seince, white, also belong to this season's set, but are not so striking and effective as those already named. We ought not, however, to leave this eminent grower's novelties without referring to Le Grand Dragon, a fine long-petalled golden yellow Japanese; Tatiana, a very close compact Japanese with long drooping florets, a finely-formed flower, colour rich canary-yellow; and Perle, a large Japanese with long quilled florets, a pleasing but curious flower, colour deep lilac-pink. There are in all thirty-two of M. Calvat's 1898 novelties, but we think we have selected from them the names of the best and those most likely to suit the exigencies of English exhibitors, to whom M. Calvat appeals far more than most of his fellow-countrymen. Mrs. White Popham is a very large, deeply-built Japanese flower, with medium-sized florets, pointed at the tips, colour pale purple-mauve and a silvery reverse. This is grown in large quantities and makes an imposing-looking bloom. A fine deep golden chestnut tone is found in John Pockett, an incurved Japanese of colonial origin, having rather broad florets and a reverse of golden bronze. Pride of Madford, from the same source, also appears to maintain its previous reputation, while the rich crimson sport from that variety, Pride of Stokell, having a golden reverse, streaked crimson, will be effectively employed where

brilliancy of colour is required. Also of colonial origin are Australian Belle, a deep rosy pink, and a large white called Mrs. C. Bown. Chatsworth is another, but the finest of all is undoubtedly Mr. T. Carrington, a Japanese incurved, with very deeply grooved florets, pointed and of great length, the colour being deep velvety purple, with a reverse of pale silvery purple. Still confining our remarks to Australian seedlings, in which the Earlswood collection is peculiarly rich, Miss Nellie Pockett, a fine white Japanese, has been seen in good form at several places, and The Convention, Japanese incurved, deep golden terra-cotta, shaded bronze inside, is of a very taking shade. Mrs. G. A. Harris, golden bronze, is striking, but rather small; and certainly one of the finest, which, we believe, it is intended to call Lord Ludlow, has a multitude of narrow grooved florets of great length, is very deep and globular in build, and in colour is of a very rich shade of fine canary-yellow, shaded in some instances with bronze.

THE MARKET GARDEN.

CARNATIONS FOR PROFIT.

THOSE who can grow Carnations well, keeping up a regular supply of perfect blooms, say, from October till May inclusive, need never despair of finding a market for them. As a matter of fact no other flower, if we except double Violets, sells so readily, while the prices, which range from 1s. to 2s. per dozen for medium-sized to large flowers, must be regarded as satisfactory. Nor is there much likelihood of the market ever being overstocked, only a comparatively few succeeding well with Carnations. Personally, I fail to see anything very difficult in their cultivation. Rooting the cuttings seems to be the greatest drawback, and seeing that only young plants are sufficiently and constantly free-flowering to pay, failing to root cuttings may be the principal cause of so many market growers commencing to grow Carnations only to give them up again. Soft cuttings sent me from private gardens have failed to strike, but any slipped from plants grown in the full light of a market grower's house rarely fail. They must be young, short, and firm. Slipped out of their socket, the base split, duly inserted round the sides of a 4-inch pot filled with equal parts fine loam, leaf-soil, and sharp sand, placed in a brisk heat any time in February or March, and kept close, very few fail to strike root with me. Late summer and autumn propagation is also desirable, the cuttings rooting readily in a gentle heat if shaded from direct sunshine and not kept too close or moist. Some of the finest stems of blooms of William Robinson I have yet seen were produced last spring by plants rooted during the summer of 1897. They were not topped, grew to a height of 3 feet, and produced grand blooms, each borne by a stem 6 inches to 9 inches in length. Other varieties I grow, including Reginald Godfrey and Duke of York, succeed well under similar treatment, all being flowered in 6-inch pots. Late autumn-struck cuttings, kept during the winter in store pots, are of good service for growing to a large size or for flowering in 8-inch pots the following season. Layers rooted in August are good for flowering the following spring, those detached from plants in the open ground frequently producing profitable heads of bloom.

It is of the greatest importance that the young plants all through their career be kept quite free of insect pests, notably green and black fly and red spider. The presence of the two former is easily detected, and the effect of their action on the young unfolding leaves

unmistakable. If kept free of aphides when in a young state by occasionally subjecting them to nicotine vapour, following this up all the time the plants remain under glass, there will not be much trouble at other times. Red spider does not attain, as a rule, full size on Carnations and is not easily seen without the aid of a lens, but the leaves soon show the effects of its presence by becoming yellowish in colour. This season is most favourable to the spread of red spider, and if Carnations are, in the course of the next few weeks, arranged for the winter on dry shelves without any attempt being made to clear them of red spider, trouble will be in store. I am no advocate of the treatment recommended by so-called experts, who seem to think disease can only be warded off by keeping the plants on raised stagings and the foliage and atmosphere of a house as dry as possible at all times. During the hot weather of August and early part of September my plants have been frequently syringed, also forcibly sprayed with clear water through a hose, and if that is not enough to keep red spider under, all the plants will be well syringed with water to which flowers of sulphur has been added at the rate of a good handful to a three-gallon can of water.

POTTING.

Over-potting, coupled with the employment of a too close or too rich compost, is another cause of failure. Carnations revel in good leaf soil and also like sandy, clayey loam. Root fibres can be dispensed if only the loam is not too rich or clayey. Fibrous loam is too great a luxury for the growers of pot plants by the thousand to think of, and not a single bushel of it is used here. My Carnations root surprisingly well in a mixture of two parts loam to one each of leaf-soil and "burn-bake," soot water with an occasional surfacing of native guano doing the rest. The drainage ought always to be good and the potting be done firmly. It is possible to err on the side of using too small pots. The bulk of my winter-flowering plants is in 7-inch pots. Not till they are well established in these, their flowering pots, is a portion of the plants removed from shallow pits and frames and arranged on ashes in a sunny sheltered place. The lights are removed from the rest, and these left where they are till housing time. Topping will be alluded to when the merits of different varieties are discussed. Staking consists in placing a single stake to each plant, securing the leading growth or growths to these before they fall about the pots and become crooked. About the middle of September is a good time to house the plants, the prospect of much rain with its saturating effects upon the plants hastening operations. They are not arranged on a dry staging, as I find Carnations thrive better when stood either on an ash-covered slated staging or on the solid ground—in either case not far from the glass—allowing head room of 2 feet to 3 feet, according to the habit of the varieties, *Thérèse Franco* and *Winter Cheer* being the dwarfest grown by me. From the time the plants are housed till the spring they have to be carefully watered, and must not be left to the tender mercy of careless labourers or reckless boys. They are not allowed to become quite dry at the roots, and when they are watered a soaking is given. If the foliage is not sufficiently green to please me, either a light surfacing of native guano—a mild and safe manure that the roots come up after—or soot water is applied, a change for the better soon being observable. Enough warmth is kept up in the hot-water pipes to exclude frost and to prevent a cold, damp feeling striking anyone on going into the house—a

long span-roofed structure—but anything approaching a fixed temperature is not attempted. A genial warmth, no forcing, all the light possible, with a little top air on mild days appear to suit Carnations well all through the dullest months of the year. Disease once broke out on one variety only, but none of it was met with last season, thanks to well coating the affected leaves with moderately strong lime water. It must be understood that I am not growing many *Malmaisons* for the very sufficient reason that other varieties pay better—at least such is my experience.

PROFITABLE VARIETIES.

When I first commenced growing Carnations on a fairly large scale my first aim was to find out what varieties succeeded best under the somewhat rough-and-ready methods of culture, and also which florists found most in demand. "A good white Carnation always sells well," remarked a friend; and so it does, though sometimes at lower prices than are given for, say, a good pink variety. It will answer no good purpose giving the list of partial or complete failures, especially seeing that some of these are strongly recommended by men who have quite as good reason to write in glowing terms of them as I have of the varieties shortly to be commented on. Uncle John, originally introduced, I believe, from America, is my favourite white. The plant is somewhat thin in growth, but if not topped more than twice, and that early in the summer, the stems flower grandly, mine, owing to the great heat, having already commenced. All being well, I shall be able to cut a few or many dozen blooms, according to the time of year, every week till June next. The flowers are moderately large, pure white, do not burst their calyces, can be cut with long stems, and, in common with most fringed-petalled varieties, are sweetly scented. *Reginald Godfrey* is an equally good pink variety, or the best in the section. The plant is of tall, robust growth, the stems branching and flowering freely; the blooms are large, very double, not much given to bursting of calyces, pale pink in colour, and sweetly scented. *Thérèse Franco* I also grow, but it is not so profitable as *Reginald Godfrey*. The plant lacks vigour, not forming flowering stems tall enough and sufficiently stout to please me, but I can always find flowers on the plants, and these are moderately large, flat, bursting occasionally, while the colour is a pleasing salmon-pink. Newer varieties of yellow flowering Carnations, notably the clumsy *Primrose Day*, have been most disappointing. I have cleared them all out, and now appreciate *Germania* much more than formerly. Unfortunately, it cannot be rightly termed winter flowering, but by a little management blooms can be had of it nearly all the year round. Young stock obtained by layering growths on border plants in August and placing in 5-inch pots in September or later flower grandly the following April, mine last season scarcely producing a faulty bloom, and it is these plants that should during the summer be shifted into 7-inch pots, larger if extra strong. Mine thus treated are already giving a few acceptable flowers, and I hope to have large numbers during the winter from the stems now developing.

Dark crimson are always in good demand, and *Uriah Pike* was to be a small gold mine. This, again, is a border variety, and is only a shade better than good stocks of the *Old Clove*. Treated as advised in the case of *Germania*, my old plants produced a short crop of comparatively small blooms, and the young ones a glut for a few days in the spring. So little do I care for it that none will be housed this

autumn. Duke of York is by far the finest dark crimson variety that I am acquainted with. What must be regarded as a drawback to this sort is its lanky habit of growth. It must be grown tall and strong, or no flowers will be produced before the spring. Topping spoils the plants. Let each plant grow unchecked, and by the end of August the majority will be 30 inches high and well furnished with flower-buds, these opening slowly, and a few blooms are available all through the late autumn, winter, and spring months. Late-struck plants, as previously intimated, flower well in the spring. The blooms of Duke of York are large, not very double, rarely burst, rich dark crimson in colour, and scented. A good scarlet was not so easy to find as might have been anticipated. *Winter Cheer* is not quite robust enough, but after the plants are housed they usually improve rapidly, pushing up moderately strong, slightly branching flower-stems. The blooms open regularly, are somewhat small, of good form and colour. W. Robinson was at first disappointing, and I did not like the appearance of the long, naked—that is to say, branchless—stems. The late-struck plants were not topped, and these, growing to a height of 3 feet, produced large, handsome, non-bursting, rich scarlet blooms on long stems in the spring most profusely. Such plants are not much to look at, but I liked them so well that only a very few of the early-rooted plants have been topped this season, and very promising all are at the present time. W. IGGULDEN.

NOTES ON PEAS.

THE best Peas for early use I find are *Chelsea Gem*, *May Queen*, and *Dickson's First* and *Best*, to be followed by *Gradus*, *Duke of Albany*, *Dr. Maclean*, *Veitch's Maincrop*, and for an autumn supply, *Maclean's Best* of *All* and *Autocrat*. For an autumn supply, *Autocrat* should be sown not later than the second week in June, as it gives a supply for a long time; *Maclean's Best* of *All* should be sown about June 25; and *William Hurst* or a good early sort the first week in July. —J. HAMMOND, *Tenpith Manor, Woburn*.

I find *Chelsea Gem* the best sort both as regards quantity and quality. I grow this variety for early and late use. For the early picking I try to get the seed sown at the end of January or early in February, as opportunity permits. If I find the weather against sowing at that time I generally have the amount of seed Peas which are to be sown laid loosely and thickly in some boxes, mixed with some damp soil, and stood in a greenhouse for a week or so to start germination. I find this plan a good one. My main-crop Pea is *Autocrat*. I find none to equal it both as regards constitution, quality, and good cropping qualities. I also grow *Veitch's Perfection*, *Barnet Hero*, *Ne Plus Ultra*, *Duke of Albany*, and *Stratagem*. *Veitch's Perfection* I find very good, but *Duke of Albany* and *Ne Plus Ultra* Peas do not, as a rule, do well with me. For a late crop I like to sow *Chelsea Gem* about the end of June or beginning of July, following an old *Strawberry* bed as soon as the fruit can be got off. I should recommend *Chelsea Gem* for early, *Autocrat* and *Veitch's Perfection* for main crops, *Chelsea Gem* and *Autocrat* for late. *Autocrat* does not take mildew in the autumn as many varieties do.—H. MORRIS, *Barham Court, Maidstone*.

For earlier sorts I use *Veitch's Selected Early*, *William I.*, and *Gradus*. *Early Morn* is a fine early sort, of good flavour. For second and general crop *Criterion*, *Maincrop*, *Ne Plus Ultra*, *Telephone*, *Danby's Stratagem*, and *Veitch's Perfection* are sorts which have done well here. For late crops *Autocrat*, *Ne Plus Ultra*, *Chelsonian*, and *McLean's Best of All* are good sorts. For autumn supplies *Ne Plus Ultra*, sown April 25, comes into use August 20 to 30; *Ne Plus Ultra*, sown May 5, in use August 25 to September 10;

Chelsonian, sown May 5, in use August 25 to September 10; Telephone, sown May 14, in use September 1 to 15; Autocrat, sown May 14, in use September 5 to 25; Autocrat, sown May 26, in use latter half of September; Veitch's Perfection, sown May 26, in use latter half of September.—D. MELVILLE, *Dunrobin Castle Gardens*.

—A small sowing is made of Veitch's Extra Selected Early. This is followed by Chelsea Gem, Gradus is sown next, Duke of Albany follows, with Criterion and Autocrat for a main crop. Autocrat is relied upon for the autumn supply. If limited to one variety I would select Gradus for first early, Criterion for midseason, and Autocrat for autumn. My last sowing is made of Autocrat about June 15. This sowing keeps up a regular supply until frosts appear. A sowing of this variety made on that day last year kept up a regular supply until November 6. On that morning we had a sharp frost and a thick fog for several days afterwards, which checked a supply that appeared promising for another three weeks.—GEO. H. MAYCOCK, *Luton Hoo Gardens, Luton, Beds.*

—The only dwarf I depend on is Chelsea Gem, which crops here better than any other, being early and of good flavour. The other earlies depended on are William I. and Exonian, both of fine flavour and cropping freely. Duchess is a most prolific kind, fine in pod and flavour, followed by Alderman. A fine all-round Pea next in gathering is Ne Plus Ultra, followed by Autocrat. Walker's Perpetual Bearer, though likely a near relative of Autocrat, I find is distinct in growth and time of coming in. I finish up with Omega. These carry us on till frost generally puts an end to them often in November. I never sow early Peas for a late crop. Exonian and William I., left standing for the protection and shade of plants standing between them, often produce a good second crop. Other varieties grown are The Don, Empress, Sharpe's Triumph, Bliss's Abundance, and Alfred the Great.—GEORGE BOLAS, *Hopton Hall, Wirksworth*.

—The two best early Peas this year were Veitch's Chelsea Gem as a dwarf, and Sutton's May Queen, 3 feet to 4 feet. I still grow the free-cropping William I. for an early supply. Webb's Senator is a fine 3 feet high Pea, and an abundant cropper, Peas large, well filling the pods. Duke of Albany is a favourite second early which I grow in quantity, the flavour being very good and Peas of a fine colour when cooked. After these I rely chiefly on Autocrat, Chelsonian, Ne Plus Ultra, and Goldfinder, a selection apparently from the last. Autocrat and Ne Plus Ultra are two of the best I know for a late supply, resisting mildew attacks better than many other kinds. These two are sown in quantity about the middle of June, and a few a week or so later for the late supply. Both invariably supply pods well into late autumn. One of the worst enemies I have to contend with are the small tits, which are particularly fond of Peas in autumn, and netting has usually to be used to protect them.—C. HERRIN, *Droghmore*.

—I still hold to selected William I., because the returns are so much more than from the dwarf kinds if sown at the same time as William I. Gradus follows. This I consider a grand Pea as regards flavour and cropping. I then follow with Telephone, Telegraph, Duke of Albany, and Duke of York, all good reliable Peas. For the latest sowing I prefer Ne Plus Ultra, Walker's Perpetual Bearer and King of the Marrows. Another good Pea I can strongly recommend as a good second early Pea is Peace and Plenty, sent out, I believe, some four years ago. As regards time of sowing for late crops, much depends on the season. I have sown on the same date for several years. One year you get a good return, the next none, but I never care to sow after the end of May.—T. LUCAS, *Strachey Castle, Llanelli*.

—Peas are a formidable quantity, so many sorts being really good and worth growing. One point in connection with many large-podded Peas is worth noting. It is this: they take a very much longer time to fill than smaller-podded

varieties, and it is worth while to expedite filling by removing the tips of the shoots when enough bloom is apparent to produce a full crop. Really good Peas are Chelsea Gem, The Prior, Stratagem, Boston Unrivalled, Critic, Epicure, Gradus, Veitch's Perfection, Autocrat, Ne Plus Ultra, Fame, Telephone, Michaelmas, and Dr. Maclean. Chelsea Gem as an early; midseason, Boston Unrivalled, Stratagem, The Prior; and for late; Fame, Autocrat, Ne Plus Ultra, and Michaelmas I consider the best. For late crops I sow from the 7th to the 11th of June; Michaelmas on the earlier date, Fame on the later. By pinching the growths at different dates a better succession may be secured.—R. P. BROTHERSTON, *Tynningham*.

—The best twelve varieties of Peas are Chelsea Gem, May Queen, William I., Duke of Albany, Prodigy, Telephone, Maincrop, Marrowfat, Champion of England, Ne Plus Ultra, Autocrat, British Queen, and Latest of All. I consider the best early varieties are Chelsea Gem, May Queen and William I.; the best midseason, Duke of Albany, Prodigy, Maincrop, Marrowfat and Telephone; and the best late varieties, Ne Plus Ultra, British Queen and Latest of All. Chelsea Gem is especially adapted for forcing. I gathered several grand dishes of it last Easter. The earliest I have gathered it outside is May 28. I always sow the second and third weeks in June for latest supply, and have always been fairly successful in obtaining a good crop.—F. W. GALLOP, *Theobald's Park, Herts.*

—The Peas I find do best here are Chelsea Gem, English Wonder and American Wonder. These sown from the middle of November to December 1 always do well with me when the season is fairly good. I am very partial to the dwarf varieties, especially those named, as I have pulled quite as many Peas from them as 6 feet high ones, and they save all the expense and labour of rods. If we could get a dwarf Ne Plus Ultra it would be invaluable. It is difficult to say which are the best Peas for cropping and flavour, as they vary very much. This I attribute to the season. As a rule, Duke of Albany, Stratagem, Dignity, Sharpe's Queen, Telegraph, Veitch's Perfection, Dr. McLean, Premier, Criterion, Sturdy and Ne Plus Ultra are the best. Mr. Gladstone promises to be good. Duke of Norfolk is going to be a grand Pea, a good grower, with large pods, nine and ten in pod, and of good flavour. For late work I make two sowings in July, and if the autumn is favourable I get good returns.—A. HENDERSON, *Thoresby*.

—The Peas I consider best with regard to cropping and flavour are Knowesfield Early Marrow, Gradus, Boston Unrivalled, Alderman, Duke of Albany, Duchess, Sharpe's Queen, Ne Plus Ultra, Captain Cuttle and Laxton's Omega. The best early variety undoubtedly is Gradus, which bears large well-filled pods with Peas of excellent flavour. Other varieties may be had a few days in advance of it, but if limited to one I would give the palm to Gradus. For midseason, Boston Unrivalled, Sharpe's Queen and Veitch's Perfection are the best I have tried of the 3-feet section, Alderman and Duke of Albany the best of the taller varieties. For late supplies Ne Plus Ultra still holds foremost place, but from what I have seen of the new Pea Captain Cuttle, which grows about 4 feet high, it bids fair to become a favourite for autumn use. For a good late dwarf Omega is hard to beat. Sowings for an autumn supply should be made about the middle of May and again in the first week in June. The last-named date will, to obtain a good crop, be found quite late enough for this part of the country.—JAMES HILSON, *Narworth Castle, Carlisle*.

—The best early Peas in my opinion are Early Giant, Chelsea Gem and Sutton's Excelsior. I have had an experience this year that I have never had before, and that is Peas failing to set owing to the cold, dry, misty weather. Anything to do well here must have a very strong constitution. The second early Peas I consider the best are Empress of India, Royal Jubilee, Prodigy, Criterion and Veitch's Perfection. Of late Peas

I only grow one kind, viz., Chelsonian, which I consider is far away before any other. Sown in May this variety will give a supply of Peas quite late in September. The date for latest sowing here is about June 6. Then I generally sow a second early, or early. Prodigy and Criterion are two varieties that do well. I have gathered Peas into the middle of October if the autumn is fine from sowings on that date. The best Peas are Early Giant, Chelsea Gem, Empress of India, Excelsior, Royal Jubilee, Criterion, Chelsonian, and Veitch's Perfection, still a first-class Pea in every respect; for flavour it is hardly surpassed. JOSEPH CORBETT, *Mulgrave Castle, Yorks.*

—My favourite first earlies are William I. and Ringleader. These sown in the last week of January give first pickings end of first week in June. As second earlies I grow Telephone, Sharpe's Queen and Gradus; and for main and late crops, Ne Plus Ultra, Autocrat, Goldfinder, British Queen and Walker's Perpetual. The last crops are generally sown the last week in June in soil deeply dug and pulverised, the seed being sown in trenches prepared the same as for Celery. Our Pea crops of late years have been greatly pestered with thrips. I always mulch with long straw litter, which I am afraid is conducive to thrips, and shall be glad to have the opinion of other correspondents on this point.—W. SANGWIN, *Tredissick, Truro*.

GARDEN FLORA.

PLATE 1197.

LILIUM RUBELLUM.

(WITH A COLOURED PLATE.*)

No hardy plant created so much interest as this lovely Lily when exhibited for the first time at the Temple show held in May last. Rarely indeed is it we have to chronicle an absolutely new species from all points and possessing the rare beauty and merit of this one. Already this charming species has received more than a usual amount of attention, and its good qualities have been referred to on all sides. Best of all, perhaps, to those who give their chief attention to hardy plants is the ample evidence of the hardiness of the new-comer and the chances that it may become a feature in many Lily gardens in the future. In point of beauty it surpasses the chaste and exquisite *L. Krameri*, to which on the first view it would appear somewhat closely related. But in its unique colouring it certainly does surpass this latter kind, and in the richness of the colouring has no rival in the widely-famed genus to which it belongs. Happily, too, it is a variable species, as witness the pleasing shades of deep pink or clear or deep rose, as the case may be, in none of which is there the least trace of washy coloration, a fact that greatly enhances the value of these slight variations in the plant. In a less degree, too, is the foliage variable. In the somewhat allied *L. Krameri* the foliage is thin, narrow, and generally meagre, indicating probably a certain innate weakness of constitution, already well known as a fact. But in the lovely species now under notice we have a broader, stouter leafage, which indicates more or less the style and substance of *L. speciosum*. This is an especially true and striking fact with regard to the substance of the leaves, and if this semi-leathery touch is borne out in the life-history of the plant, then we have in the lovely new *L. rubellum* a plant that will indeed be a boon to our gardens.

If further proof of the general value of the species were needed, it is forthcoming from

* Drawn for THE GARDEN in Messrs. Wallace's nursery at Colchester by H. G. Moon. Lithographed and printed by J. L. Goffart.



a conversation with Mr. Wallace, Jun. This was to the effect that early in 1897 the firm received from Japan a quantity of collected bulbs, the majority of which came to hand in a badly shrivelled condition. The whole batch was at once planted, but as very few appeared above ground, it was considered the majority were lost. In lifting the good ones in autumn, however, a much larger number were found to be alive and making fresh basal roots. All the bulbs were immediately replanted, and many flowered the following summer. This is especially valuable information, because it happens almost invariably when a Japan Lily does not appear above ground during its year of planting that the bulb is dead. Of *L. auratum*, *L. Krameri*, &c., this is particularly true; therefore the two-fold fact of the bad condition when received and the subsequent recovery of the bulbs gave hopes of a better constitution generally. All this by subsequent experience has been proved. The coloured plate in today's issue speaks for itself, particularly in the unique colouring and the life-like manner in which the foliage is depicted. The plant, so far as is at present known, attains to about 2 feet high, producing three to five of its beautiful flowers on a stem, the blossoms emitting a delicate fragrance. A marked feature, as may be gathered from the coloured plate, is the great substance of the perianth segments and the distinctly rounded and somewhat obtuse divisions. Equally characteristic are the blunt and thickened buds, that give an impression of *L. Hansonii*, though only so far as size or shape is concerned.

The culture of this beautiful new Japan Lily, which is now reaching this country in great numbers, is very simple, the plants succeeding best in an open mixture of peat and sandy loam in equal parts, or, failing peat, two-thirds of good leaf-soil may be added. Too much moisture should be avoided till the roots are fairly active, and if grown in pots ample drainage should be afforded. But where it is intended to plant in quantity for cutting, it will be found the simplest way to prepare a small bed of a mixture similar to that already prescribed, planting the bulbs about 3 inches deep, employing plenty of sharp grit or sand about the bulbs. A slightly raised bed in a partially sheltered position would suit this Lily exactly, covering the bed with an inch or two of cocoa-nut fibre refuse should the winter prove severe. At the Temple show in May last, the floral committee of the Royal Horticultural Society unanimously granted this pretty species a first-class certificate. E. J.

Autumn tints.—There is a considerable loss of colour in the landscape this autumn compared with the past few seasons. To the great drought of the summer and autumn this is no doubt attributable. Trees of some kinds developed marked signs of distress weeks ago in the shrivelled and falling leaves where the ground was poor, thin, or heavily shaded by overhanging branches. Many Oaks showed this loss of leaf early, and the blackened foliage from the honeydew exudations has prevented the foliage presenting that natural autumn colour which bespeaks healthy maturity. The leaves, too, of many trees dropped early from want of root moisture. *Vitis inconstans*, which almost every year gives such a great depth of colour, is singularly deficient this season in a good many instances. On the mansion here this *Vitis* is a very fine feature, the colour developing so early in the autumn and so intensely bright. There are some spaces at the present time quite dull, and it cannot improve now at this late date. The common variety, on the other hand, has been even brighter than

usual where growing on wire arches, which is rather difficult to understand, because from a colour point of view the plants have not the same advantages as those on the house.—W. S., *Road Ashton*.

THE WEEK'S WORK.

KITCHEN GARDEN.

FORCING ASPARAGUS.—To keep up a supply from now to the end of January I find it necessary to lift the roots. I am not much in favour of lifting, as the plants after being forced are useless, and as they take years to grow, it is an expensive process. It is useless to lift weak plants, as the produce will be poor. Many growers find it best to lift an old bed and to make a new one annually, as the older plants force readily and give a better return. Roots that have been cut over for years can be lifted, and there is a gain in some soils, as the roots may have got down into poor soil, and by making new beds one can give the land better cultivation. Those who grow young roots for early forcing will find this mode of culture the most profitable, for the return from such plants will be good. This is a system I would advise where large quantities are needed and there is land to grow the plants for the early supply. Forcing is easy, the chief points being to give just sufficient warmth to start the crowns into growth; excess of heat means weak growth and loss of flavour. I prefer a heated frame, as this allows the plant to be a short distance from the glass and prevents the growth drawing. The roots at this season will need a gentle bottom-heat. I find leaves and stable manure the best, as the leaves give a gentle, lasting heat, and, what is so essential, moisture, which the roots delight in. If large quantities of stable manure are used, the heat at the start is too violent. The top-heat need not be more than 60°, and in mild weather I use very little warmth in the hot-water pipes, and at night the glass is covered. To keep up regular supplies from this date, it will be well to introduce plants into the frames or pits every three weeks, and in quantity according to the demand. When the growth appears above the soil it will be well to syringe or water with tepid water. Very little top soil is necessary when placing the roots in the heating materials. It is well to make the beds firm to retain the warmth and prevent sinking. The roots may be placed quite close to each other, giving tepid water when starting.

FORCING PERMANENT BEDS.—This is one of the most profitable modes of forcing Asparagus, but unless the grower has the best material at hand, I find it well to reserve the permanent beds for the supply after the new year is in. Some growers have modern appliances, and with hot-water pipes or heated flues under the beds they can get earlier supplies, but even then it is not a profitable proceeding, as the beds to give a good return need a longer rest, and force more readily at the season named. At the same time if the beds are forced yearly they will soon respond when warmth is applied, but the top growth with shortening days and little sun-heat is not equal to that two months later. I now commence to force our permanent beds for late January supplies, and to give the produce for use from then till the open ground beds come in. Having little fresh manure to spare I use large quantities of fresh leaves, which are valuable, as, though the plants are much longer in starting into growth, the produce is superior. The beds are 4 feet deep with a width of 3 feet between each. This space is filled with the leaves. I find it best to gather the leaves and place in a large heap before putting the same into the 3 feet spaces, as this allows of the leaves being trodden more firmly than if put in as gathered. In November or early in December, as soon as sufficient leaves are procured, I make up the beds for forcing, and as the materials sink more are added and made as firm as possible. This creates a gentle heat. The chief thing

afterwards is to ward off snow and heavy rainfall. To prevent this the leaves are much higher than the beds, and long strawy litter is used as a top covering. Shutters or frames may be used directly over the beds. I use frame-work bolted together and boards for covering. A little warm litter is placed over the surface soil of the beds when the leaves are heating freely, and in severe weather long litter is placed over the shutters and heating materials also. From beds treated thus there will be grass equal to that grown in the open. Of course, early in the season it will be blanched, but grown in this way the flavour will be good and the cost of production trifling. The old heating materials are valuable, as these when cleared out will be most useful for many purposes, and as I irrigate the forcing beds in the summer months with liquid manure the decayed leaves are of greater value.

SEAKALE FORCING.—This may be had in quantity from now to April, and at this time of year it will be found of better quality if forced so that the top growth is not drawn. To get good Kale at the end of November a brisk heat must be employed, and though, as I have stated, Seakale can be forced easily, it is essential to grow it in the dark and with enough moisture to make it palatable. A Mushroom house is the best place if the house is heated, but the roots should have the warmest corner. At this time of year I place the roots over the pipes with a good depth of leaf-soil under and several inches over the roots, and give tepid water when watering. Other ways equally good may be adopted. Many force in deep boxes with great success, and I have seen splendid results follow burying the roots more deeply. Of course, grown thus, the moisture must be sparingly supplied. For regular supplies it will now be well to place roots in their forcing quarters every ten days or a fortnight, selecting the strongest roots for the earliest supplies. Avoid rank steam, which soon spoils the blanched tops, and strong heat affects the quality. More warmth will be needed for the first lots at this time of year, as the roots have had no rest. I do not advise forcing with pots and manure in the open at this early date, but growers may with advantage use slower heating materials. The best Kale I ever saw was obtained from plants covered over in December with boxes, leaves to the depth of 4 feet being placed over them and made as firm as possible. This gave splendid heads in ten weeks from the time of covering the beds. In a severe winter it would be necessary to give a greater depth of heating material or use litter over the leaves. Those who need large quantities of Seakale by a certain date may with advantage adopt the market grower's mode of forcing. The roots are lifted, trimmed, sorted into sizes and placed in wide trenches a foot to 18 inches in depth. Over this is placed strawy litter and on the litter a good depth of fresh manure. This of course heats quickly and needs frequent testing. If the heat is too violent, more litter is added. At the same time there is a danger of steam injuring the growths if it does not escape. Another mode of culture is to place the Kale on manure and cover over the crowns.

FORCING RHUBARB.—This will be useful for tarts and other purposes towards the middle of December. I find the small red kinds, such as Royal Albert or Early Red, the best for hard forcing. Johnston's St. Martin's and Myatt's Linnaeus are also very reliable for first supplies. At this date more warmth will be needed to get produce freely for mid-December and later use. I grow specially for this purpose by sowing seed in frames early in the year and then growing on in a rich soil on a warm border. The roots are of a nice size for forcing the second year after sowing. Many growers find it less trouble to lift roots, and if the variety is reliable the supply from older roots will be greater. I find there is a great waste of material if roots are lifted where large supplies are needed, as much better results are secured by growing a quarter for the forcing house either by division of roots in the early

spring or from seed, as after the forcing the roots are of little value. Rhubarb can be forced under stages or any place where there are enough warmth and freedom from excessive moisture, as, though it delights in warmth and moisture at the roots, it does not like steam or vapour. A certain amount of air is necessary if colour and flavour are studied. For regular supplies from December to March roots should be introduced every three weeks according to the demand.

SALADS FORCED.—Under this heading will come such useful roots as Chicory and Endive. From now to March Endive will be of great value if batches can be placed in warmth every fortnight and blanched for salad. Chicory for forcing will now be in the open ground and may be lifted, the old top growths twisted or cut nearly close to the crown and the roots placed in sand in a cool shed, or, what is better, laid in soil in the open, so that in severe weather litter may be placed over them. Left in their growing quarters the roots do not force freely, but they soon start when placed in heat. If cut before the head opens it is delicious as a vegetable, and when developed an excellent salad. Mustard and Cress will need to be sown every ten days where salads are needed daily. From this date I find I get the best produce from boxes placed over warm pipes or close to the glass on shelves in a forcing house, the seed being sown on the surface and covered with brown paper till germinated. Avoid excessive moisture, as the tender plants soon mildew or decay. Fully grown Lettuce may be placed in warmth for blanching, but very little moisture will be needed. Dandelion will be a welcome addition to the salad bowl if blanched as advised for Chicory. S. M.

FRUIT HOUSES.

PINES.—**FRUITING PLANTS.**—The Smooth Cayenne and Charlotte Rothschild varieties are now the best kinds upon which to rely for well-finished fruits. Later on these, in conjunction with Black Jamaica and Lord Carrington, will afford a good choice. For midwinter I have always found the two last-named the most reliable, owing to my Pine pits being only accessible from the outside. This to some may seem but a small matter, but it is in practice all-important, and when it is not possible to have houses or pits with passage-ways inside of them it is best to rely upon kinds which will put up with a little rough-and-ready treatment both as regards watering and temperatures. With every convenience at hand in the way of suitable structures for Pine-apple culture, there never need be any fear but that a good return can be obtained, even in these days of cheap Pines from the Azores, which at the best are oftentimes sour, although all that one could wish in appearance. Small houses or pits—or at the most medium-sized ones—are much better for Pines at all seasons of the year, not that they cannot be cultivated in larger ones, but from the fact that more will at times ripen than are immediately required in the latter instances. Thus four or six small or medium-sized divisions are much to be preferred to half the number of larger ones, whilst at the same time greater economy could be exercised in the management. Pines now ripening should have the temperature well maintained (see last calendar notes, October 8, p. 285). An average of from 2° to 5° less will be better than firing too hard, whilst if it prove soon to be frosty it will be better to cover the glass at night, by which 5° difference will be obtained if it be windy at the same time. The watering of all ripening Pines should cease as soon as the slightest tinge of colour is evident, otherwise black cores may result. Those even which are now in their later stages of swelling must be very carefully attended to in this respect, otherwise they will not finish so well as is desirable. See that the bottom-heat is well sustained for these, also for any later batches, of which there may be occasional fruits in a semi-advanced stage.

SPRING-FRUITING PLANTS.—These should now be kept in almost normal condition. By this,

60° is meant as a night temperature, with a rise during the day of 7° or 10°, as the case may be. Keep this stock moderately dry at the roots, avoiding both extremes of moisture. When watering has to be done, let the water be chilled, say 75° or thereabouts. Should the early morning temperature be as low as 55° no harm will come to the plants. If kept quiet now they will respond all the more readily when the time comes to start them. Keep a close watch upon any stock in quite small pots. These will dry up rather quickly, being invariably near to the pipes in the front row. If these get too dry now they will frequently throw up small, puny fruits instead of starting into fresh growth in the spring.

BANANAS.—Except in the case of plants showing, developing, or ripening their fruits, the stock of these should now receive moderate rest. Do not, save when any plants are much pot-bound, now attempt to forward such by fresh potting. It will be better to defer this work until the change of days, when, even if it be impossible at once to increase the temperatures, there is the satisfaction of knowing that every week is more favourable to vegetation. My plants are all in pots, which in some cases look small in proportion to their occupants. I do not advise intending or present cultivators of the Banana to depend altogether upon the planting-out system. In fact, so far as my own experience goes, I prefer goodly sized tubs. The gross growth with noble foliage is all very well for appearance sake, but from the severely practical side, including a saving of labour, the preference so far must be given to the restricted plants. With the growth somewhat quiet now, it is a good time to thoroughly overhaul the plants for any insect pests, as scale or mealy bug, if this latter enemy is unfortunately present. Green fly will also give trouble upon the young leaves; it should be stopped at once when detected. Beginners in Banana cultivation will do well to keep exclusively to *Musa Cavendishi*, which it is hard to beat when a good stock is obtained. There seems to be a difference of growth in this variety, one being more compact than another. Plants now in fruiting stages should be maintained at a night temperature of at least 65°; nearer 70° will be better. During the daytime a rise of 15° will not be any too much when it is possible to attain it; at any rate, make good use of all available warmth to hasten the ripening. For the younger stock, 60° at night and 70° by day will be ample until the turn of days. Those who contemplate the growth of the Banana next season other than in the open border will do well to secure some tubs of about 2 feet in diameter, with a similar depth. These, if they have had oily substances in them, will be better prepared if burned out. Casks which have been used for wines do not need this precaution. Extra-sized flower-pots can also be turned to good account, but they should be strong and sound to commence with.

THE EDIBLE PASSION FLOWERS.—Notes have appeared from time to time of late in various papers upon these fruits. There may be some growers who might be able to give them a trial. Where this is the case I would recommend that *Passiflora edulis* and *P. quadrangularis* be chosen; both are good in their way. Personally I prefer the former, which when well ripened is greatly appreciated by some enthusiastic fruit growers. I hope to grow these varieties during the coming season in a lofty house now in preparation for Bananas. The planting-out system will be adopted in moderate-sized brick pits. With this object in view plants have been prepared of *P. edulis* (Roberts' variety being the choice). These will soon give a good account of themselves when warm weather again sets in, but anything tending towards an excessive growth will not be encouraged. Light training upon the roof seems to be a suitable position. The other variety, well known as the Granadilla, requires even more care not to foster a luxuriant growth, otherwise it would soon cover all available space. On the other hand, if held rather in check both as regards limitation of soil and not too much

moisture at the roots, a sturdy, hardy growth will ensue, which will result in greater freedom of flowering. With this reminder there may be some who would like to work the subject out to suit their own cases. There is at least the merit of change and novelty too in a dish of either variety for the dessert. A cultivated taste may be needful, but to bring this about is not at all a difficult matter.

VANILLA AROMATICA is another subject from amongst tropical fruits the culture of which is strongly advised. Here, again, is a plant that thrives well with the Bananas. It is grown in the Banana house at Syon Gardens in the most successful manner possible. Notes of the culture thereon have very recently appeared in *THE GARDEN*. Further remarks upon this detail would now be superfluous, as Mr. Wythes in his method of culture is reliable to follow. If for no other purpose than for the aromatic fragrance of the pods as they hang upon the plants it is well worth growing, but there is in addition the point of utility. It cannot be urged that a great amount of room is taken up in the cultivation of the Vanilla. With a sunny spot the back wall may be utilised, or else the warmest places in the front or at the western ends of houses where no shade is permanent. HORTUS.

KITCHEN GARDEN.

THE ROOT CROP.

In many parts of this county, at least, both in gardens and on farms, the various roots which prove so acceptable during the winter months appear likely to become scarce long before spring; indeed, on some farms the autumn sowing of what is termed white Turnips has proved so unsatisfactory, that what did appear has been grazed off by sheep, and the land either planted or prepared for another crop. The absence of rain for so many weeks prevented the seed germinating freely, and what plants did appear fell a prey to vermin, the growth in consequence being anything but clean and healthy. To a great extent the same remarks apply to garden crops. A limited store of winter roots, Carrots and Turnips particularly, often promises a harassing time for the gardener, as, though they may not be highly appreciated in the ordinary way in all dining-rooms, cooks, apart from the flavour they may extract from them, require an unlimited supply of fine specimens for cutting out small designs for fancy dishes, the greater part of each root being wasted. In most establishments, however, a variety of roots, provided they are of good quality, are not despised during the winter, as they afford a change when there is little other apart from forced vegetables to select from, and it is not uncommon for their appreciation for them to extend, or seemingly so, as the supply falls low. Moreover, what proves more useful than a good breadth of Turnips for supplying an abundance of their wholesome tops during the spring months, when perhaps a severe winter has cut off all the Brassicas, and it is then as well as during the coming winter that I fear their scarcity will be realised. In some gardens there may still be a number of Turnips left from an early sowing which, owing to the dry season, have become useless for cooking, but even these during a season like the present can be turned to good account—at least I am treating them here for this purpose with, I trust, a good chance of success. A portion of a crop of Veitch's Red Globe sown at the end

of June still occupies the ground. Growth of course has been slow all the summer, resulting in the roots being small, but they are perfectly sound and hard and should stand through the winter, furnishing a useful gathering of tops in due course. With a view to securing this desirable end it is necessary to lift them, as they are now spread over a large area, and bury them on a north border. I do not mean in the usual way in clamps, but the ground is dug over and the roots laid evenly into each trench as the work of digging proceeds. A large quantity of roots can not only be placed in a small plot of ground, allowing the site they occupied previously to be dressed with manure and dug up at once, but by burying them about 3 inches beneath the surface they are protected from frost, and few of them will decay during the winter. This is an old-fashioned method of keeping roots still practised in some gardens and worthy of consideration by all who wish to keep a good store. Such roots will be found quite good enough for flavouring soups, reserving a portion for supplying tops next March. This will be found to save the autumn-sown crops, which are either thin or backward, and so all will be done that is possible to stave off the much-dreaded famine.

With Carrots most vegetable growers have experienced the wisdom of not trusting to one general sowing to keep up the winter supply. Seasons and soil vary so much that this crop can seldom be depended upon from one main sowing, say in April. The roots may become stunted through the want of rain, or they are liable at the end of summer after a few showers to make a second growth before it is deemed advisable to lift them. If the roots do not actually crack, their quality is impaired, as they lose their bright deep colour and green rings form in the centres. This will be the case with many crops this season, I fear, judging by the quantity of rain which has fallen recently; indeed, the tops look more like growing now than they have done all the season. I find a sowing made at the end of July generally furnishes the best roots, medium in size and of good quality. At the present time this late sowing is decidedly better in every way than that sown early in April, proving that Carrots can be sown too early and have too long a season. When sufficient frost appears to cut down the tops, a dry day will be selected to cover a portion of the bed with long litter, as the quality of the roots is never better than when used direct from the ground. A reserve store in the root house, of course, is necessary to supply what is required during inclement weather. The past season has been equally trying to Beet. Medium-sized roots are always preferable, but not when their dwarfness is the result of dry soil and stunted growth, as, unless naturally tender in the grain, the extra boiling necessary to make it so results in the loss of colour, almost, if not quite, as objectionable. Extra care, therefore, will be necessary in storing this crop. A damp, cool place with plenty of sand or fine mould placed about the roots, covering the heaps or bins over afterwards with a good thickness of straw or mats, will help to keep them in good condition. A portion of the crop at least might be left in the ground, covering the crowns with ashes, or every other row might be lifted, and what remains be moulded up like Potatoes, scattering Bracken along the ridge should severe weather threaten. Parsnips have not suffered to the same extent as other roots during the prolonged drought, but in my case I account for this through sowing on a piece of trenched ground, which allowed the roots to strike downwards freely where there was more mois-

ture. The weight and quality secured more than repay the cost of the extra work. Although perhaps the Parsnip is considered the coarsest vegetable, it will undoubtedly prove very acceptable this winter, as necessity often creates appreciation or reduces aversion.

Goodwood, Sussex.

RICHARD PARKER.

Parsley as an edging.—In the garden under my charge several of the walks are edged with rough stones. Some few years ago I resolved to sow Parsley close to them, allowing it to cover them. Some may say Parsley is a hiding-place for slugs, &c., but this is of no consideration, seeing I sow it every spring, and by the time it grows too large most crops are out of the way. It covers these stones and hangs on to the paths. Another recommendation to it is that by so doing a good bit of space is saved, and this to me is of considerable importance.—DORSET.

Late Beans.—Hereabouts where frost visitations have been only slight—so slight, in fact, that Dahlia and runner Beans are still growing and flowering—late gatherings of Beans have been, though not oft-repeated, very general. So late as the 1st of November quite a good gathering was reported from a cottage garden, and in my own case Beans are flowering and producing pods sufficient to get an occasional dish. I cannot remember another season when such a desirable vegetable was obtainable from the open so late, and the shortness of supply in the garden makes Beans more than usually welcome. The rainfall coming somewhat abundantly on a dry soil set up a late growth.—W. S., Wilts.

Potato Snowball.—I have read with interest the notes of late in THE GARDEN on Potatoes, but so far I have not noticed any reference to the above variety. I had Snowball sent me for trial, and in spite of the soil being dust-dry for many weeks, this variety bore a fine crop. The tubers are of a nice size and there were scarcely any small ones. The quality, too, was very good. With me Snowball in quality was not unlike Schoolmaster, one of the best Potatoes in this respect, but the crop is much heavier. Snowball may be termed a midseason variety, though from appearance I should say it will keep well. The flesh is white, the skin rough, with few eyes, and the haulm strong, but not tall. No tuber lifted showed any disease.—G. W.

Celery Standard-bearer.—For some years the above variety has taken a high position among the coloured kinds, mostly on account of its splendid quality. It is difficult to add anything in its favour, as most growers well know its merits. My object is to note how well it succeeds in poor soils with only ordinary culture. Many gardeners have none too much manure at their command, and such will find Standard-bearer one of the best. It is not a gross grower and appears to do well in most soils. Standard-bearer was the result of crossing Major Clarke's Solid Red with a white Celery. Few Celeries keep better. I have had this sound well into May. It makes a small quantity of foliage for the size of stalk, few varieties being so solid. I grow it largely for midwinter and late supplies.—S. H. B.

Lettuces in dry weather.—I was pleased to see "E. M." speaking of Hicks' Hardy Cos Lettuce in such favourable terms, and can vouch for the accuracy of the statement that this variety is of hardy constitution and suited for winter work. Mr. Webb, gardener at Kelham Hall, Newark, invariably grows it for early spring cutting. Often have I seen a splendid lot of it on an early sheltered border, the plants not merely in a single row immediately under the shelter of the wall, as we frequently see the old Brown Cos planted, but extending the whole length and width of the border. Here they passed in safety all but the sharpest winters, and proved a boon in spring, the quality surpassing that of the old Bath Cos. Mr. Wythes on the same page refers to the difficulty gardeners have this summer experienced in providing good

Lettuces for the salad, and prefers adopting the non-transplanting system. Much greater success, however, might be obtained if in hot weather seed were sown on well-moistened ground on a north border and the seedlings eventually carefully planted into trenches of medium depth well enriched with manure, and thoroughly soaked a day or two previous to planting, lifting each plant with as much soil attached as possible, and shading with evergreen branches for ten days. In such a position the roots reap the benefit of all the water that may be given them, while the sides of the trench afford a certain amount of shade till the plants are of good size. Another capital dry weather variety is Alexandra Cos. I grew it for years, and was seldom without plenty in the worst seasons, and that even in a light, shallow soil. Mr. Wythes speaks well of Continuity as a drought-resister, and he is fully justified in doing so. I had a trial packet of seed sent me at the time it was distributed, and I have ever since recommended it. It is more bronzy outwardly than any variety I know, but the hearts are of good colour and quality, not the least thing in its favour being its non-liability to run quickly to seed. A common error is planting out too many Lettuces at one time and not sowing often enough.—J. C.

THE EARLY CABBAGE CROP.

THE ground being now in fine condition, it will be well to make a large planting of Cabbages, as there will be little danger of failure. Unless I am much mistaken, the demand for young Cabbage in the spring will be greater than usual. There is a great scarcity of Cabbage plants, in many cases large growers have a difficulty in obtaining plants, those who are fortunate enough to have them to dispose of realising high prices. Owing to the heat and drought, fully three-parts of my plants failed, though they received ample attention. The plants went blind, and this is a common failing in most parts of the country. I notice the plants saved from the earlier sowing do not look happy. They are infested with fly, and so far have made but little progress. I am now dusting over freely with soot, and the rain will help them to make a fresh start. I am much better pleased with a later sown lot of plants. Noting the failure of the earlier lot, I sowed more than usual, and these, though small, will be the best material. Now is the time to make good any losses, as, though we are close on November, the soil is in a workable state, and the plants will make roots as long as we get mild weather. I always plant 15 inches apart each way. Many will think this much too close, but, needing a great quantity of green vegetables early in the spring, I do not hesitate to take a whole row at a cutting, thus leaving ample room between the trees. If this is objected to, it is an easy matter to cut every other plant in the row. Many would prefer this. I draw the whole row, this allowing the hoe to be used freely and fertilisers also to hasten the crop if the ground is at all poor. Where there is a large demand, one must have a succession. In the desire to get Cabbage as early as possible we are at times apt to forget the succession crop, and though such kinds as Ellam's are invaluable, these early varieties of Cabbage do not remain solid long. Many people sow in frames early in the year for succession, but I do not advise it. Such plants are not ready much before midsummer. They need shelter at the start, and in the end cause a good deal of work. My note refers to the supply from early April to the end of June or up to the time Peas and other choice vegetables are fairly plentiful. A good quarter of plants for the period named will be found most useful. I find such varieties as the Early Offenham useful. This is a very shapely, good quality Cabbage, much grown in the midlands for the Birmingham markets. There are other good kinds, such as Maincrop, April, and Flower of Spring. For a private garden I do not advise large kinds, which need more space and are longer in coming into use. I would also note

the value of pricking out surplus plants at this date. They winter better, as if left in the seed beds they get long and weak. If pricked out, roots form close to the leaves, and they come in useful for filling up blank places. These make a good succession to the early spring supply if planted out in rich soil at the end of February or early in March. S. M.

FORCING FRENCH BEANS.

THE earliest made sowings of French Beans under glass are tolerably easy to manage, and good gatherings may, as a rule, be relied upon. It, however, requires a good deal of tact to induce those batches which are to produce Beans during the short, dull days of December and January to grow and crop freely. Large pots and rich compost are now things of the past, as gardeners have found that, unless the roots are in a warm medium and one which dries fairly often, the plants make poor, unproductive growth and are not worth the trouble entailed. In gardens that have suffered much from the prolonged drought, forced Beans will during the coming winter be specially valuable, as choice outside vegetables will be none too plentiful. Where French Beans are in great demand, it would pay to erect a house especially for their culture, as during the summer months it could always be put to a profitable use for the growth of various plants, or even Tomatoes. Such a structure would require to be light and supplied with plenty of hot-water piping, so that the necessary temperature could be maintained without unduly heating the pipes. Without this precaution the atmosphere would in severe weather become too arid and foliage disfigurement from red spider inevitable. A stage or tier of shelves erected within a short distance of the roof-glass would be best, also ample ventilation. Many gardeners who do not adopt the planting-out system use 6-inch pots successfully, but I think boxes similar to those usually employed for cuttings, but a little deeper, are best. Mr. Taylor, when at Longleat, used boxes and grew French Beans as well as most people. His contention was that the roots had a chance of permeating such a limited depth of soil and feeding could be resorted to. Use a poor rather than a rich soil, excluding animal manure altogether, and trust to feeding later on from the surface. Sow thinly, keep the soil on the dry side until the plants are up, and always use new seed. When in boxes a few twigs inserted in the soil will prevent the haulm falling about. J. CRAWFORD.

Onions.—In judging Onions as now presented for show in competition, too much stress is laid on mere size or weight and not enough on form, solidity, brightness and clearness of skin. In the rules of judging of the Royal Horticultural Society, although out of a maximum of seven points size is awarded two, so also is condition, as that is of special importance, judges should in determining the best of several collections pay the greatest deference to solidity and finish, as these are indications of good keeping. In a recent Onion competition I saw huge bulbs were awarded prizes solely for size, yet had rough, discoloured coats and with some flesh already softening, because fed up to be a mass of watery pulp rather than of solid, firm flesh. It is very rare that big bulbs have the most perfect finish. The skins should be silky, almost bright, clean, and setting tightly on the bulbs, and not loose or broken. The bulbs should also be very firm about the necks and have them small and almost dry, indicating that thorough ripening has resulted. Large Onions have a high value as food, boiled, baked or otherwise cooked, but the best for this purpose are those with fairly solid flesh and mild in flavour. They have an equally important value in some cases, perhaps greater, in being the agents for giving a fine seed stock. But to be useful for this purpose, they must be good keepers that can be kept rested until February, when they may be planted. How few of the huge watery bulbs that have won prizes are sound by Christmas, much

less two months later? Surely some consideration should be paid to that desideratum. We refuse to grant prizes to other vegetables, whether Potatoes, Tomatoes, Cucumbers or tap-rooted kinds, simply because large. A certain evidence of table quality is invariably desired, and that rule should prevail in the case of Onions, for with them the biggest are far from being the best. —A. D.

FLOWER GARDEN.

THE KEW BELLADONNA LILY.

THIS is far superior to all other known varieties of the Belladonna Lily. It was supposed to be a hybrid, *Brunsvigia Josephinae* being the other parent, but no trace of the characters of the latter can be found in it beyond the large number of flowers in each umbel. Whatever its origin, it has proved a first-rate garden plant at Kew, where it is grown against the south wall

inflorescence of the type and of the Kew variety are shown side by side. Bulb fanciers generally who have seen this plant at Kew agree in calling it the handsomest of all outdoor bulbous plants. It has been distributed from Kew to a few gardens, so that no doubt it will soon be abundant. W. W.

Annual Centaureas.—I was much pleased, on opening my copy of *THE GARDEN* November 5, to find a coloured plate of the charming annual Centaureas, or, as they are popularly known, Sweet Sultans. They are so useful for cutting throughout the summer months that no garden should be without them. The plants, if thinly disposed so that they do not become drawn, make exceedingly pretty isolated beds on grass, and give great quantities of flowers if the precaution is taken to pick off the seed-heads as soon as the blooms fade. Planted in groups of from three to six plants they are also effective in mixed borders. I generally grow the white and yellow varieties,



Amaryllis Belladonna (Kew variety) and the type. From a photograph sent by Mr. W. Watson.

of the tropical Orchid house and also in an unheated frame. Every autumn it has produced its magnificent flower-heads, and it has increased rapidly by means of bulb-division. In the same border there are numerous plants of the type, and the difference between these and the Kew variety is most marked. The former has leaves an inch wide, a scape 18 inches high, and an umbel of from six to ten flowers, rarely the latter number. These open three or four together, and they have narrow, pointed segments coloured rose-pink, paler inside. The Kew variety has leaves 2 inches wide, a scape 3 feet long and 1½ inches in diameter at the base, and an umbel of twenty or more flowers (that here figured bore twenty-six) which are nearly all open together as in the Jersey Lily (*Nerine sarniensis*). They are larger and have broader, less pointed segments than the type, and their colour is bright rose-crimson, changing to almost pure crimson with age. In the photograph, which was taken by Mr. A. Griessen, an

and raise them about the beginning of April, planting out the seedlings afterwards as early in May as is consistent with safety. Being so sweetly scented, the flowers are highly prized by many in a cut state for drawing-room decoration.—A. W.

Tricyrtis pilosa.—It is only rarely the few species constituting this genus are seen in good condition, and the above species least of all even then, but this year the exceptional heat would have appeared to suit it to a remarkable degree. It is a genus remarkable rather for quaintness of character than for its flowers, and the above species especially so. Usually the plants flower too late in the year, and the blooms are either killed outright or so disfigured by frost and wet as to render them worthless. The above-named species, however, in a rather sheltered position in the rock garden at Kew has been quite a feature for a much longer time than usual during the present autumn. The long arching stems, fully 4 feet in length, are clothed with large heart-shaped leaves, the latter covered with a short, dense down, which is very soft, the same pilose

character occurring on the stems and branches. The curious and elegantly spotted flowers are produced in great numbers on much-forked branches, and these, arching over, form a very striking and unusual object in the garden quite late in autumn. The segments are whitish, yet copiously marbled with violet and purple spots. The stigma is likewise also similarly marked, and forms a very curious and interesting feature among liliaceous plants. It inhabits the Himalayas, and thrives best in rather moist peat and leaf soil.

Cactus Dahlias in November.—Rarely at a Chrysanthemum show in November has there been seen such a superb display of Dahlias, especially of Cactus varieties, as was made at Kingston on November 1. Seldom have these Dahlias attracted so much notice. Nearly all the flowers were in exceedingly fine form and the colours were beautiful. In this respect, apart altogether from the quaint build of the blooms, which to so many who saw them was so new and attractive, their rich colours far excelled those of the Chrysanthemum. So far as these latter flowers are concerned, something that is thus disparaging is due to the too common practice on the part of growers for exhibition of setting up fully 70 per cent. in their stands of white and yellow flowers, real colour being so much lacking. Singularly tame in this respect were the finest stands of Chrysanthemums compared with the beautiful Dahlias. Even the show flowers, so largely staged, also were wanting in brightness compared with the beautiful Cactus varieties. Very fine and in perfect form were Starfish, A. J. Deal, Mary Service, Cycle, Charles Woodbridge, Arachne, Fantasy, Alfred Vasey, Keynes' White, Ebony, Mrs. F. Fell, Harmony, and fully a dozen others. In this case the plants had been grown in a dry, airy position, and recent rains had given to them new life and vigour, allied to charming hues of colour. It is very evident that the more these Cactus Dahlias are seen and known, the wider will they be grown. We have, indeed, no outdoor flowers so singular in form, so rich in colour, and so attractive in a cut state as these are.—A. I).

NOTES FROM CLAREMONT.

AFTER a hurried visit, the conclusion I arrived at is that Claremont is one of those interesting historical places that should be preserved as much as possible in its present form. Having recently inspected modern gardens in all their glare, excessive trimness and general appearance of having been too much given over to the builder rather than a landscape gardener of the right stamp, it was a relief to spend a few hours with Mr. Burrell strolling among the beautiful and in some instances rare trees, and from one old-fashioned garden to another. Time was when Claremont was reckoned among the most noted gardens in the country, and never more so than when the exiled Bourbon princes were living there, but the glazed structures that were good of their kind in those days are in these times regarded as very old-fashioned indeed. They are there still, and in all probability never doing better service than now.

No attempt will be made to describe all or even a tithe of what there is to be seen of interest at Claremont, but mention ought to be made of a grand specimen tree of *Pterocarya caucasica* growing on a lawn between some of the walls abounding in all directions. This magnificent tree has a spread of branches measuring 100 feet, and is in every way ornamental. In another direction a fine specimen of *Salisburia adiantifolia* is to be seen, and equally noteworthy is a garden wall 60 yards long and 13 feet high covered by a single tree of *Wistaria sinensis*, while just outside of the kitchen garden is one of the finest hedgerows of naturally-grown Hollies to be seen anywhere. No stiff, gaudy bedding-out came under my notice, but everything of a hardy nature worthy of garden culture seems to find a place in the various large beds and borders in and

out of the kitchen gardens, not in mere dribblets, but in most cases in bold effective groups. In Surrey, as elsewhere, the rainfall during the summer and early autumn months was very light, but the well-tended flower borders showed but few signs of this.

Fruit is grown under glass on a fairly extensive scale, and the Grapes left hanging on the Vines were of the right description for the dining table. Large numbers of pot plants suitable for house, table and conservatory decoration, and for providing abundance of cut flowers abounded. Among the less common of these I noted a large batch of *Lasiandra macrantha floribunda*, neat, bushy plants commencing to flower freely, and these only in 5-inch pots. *Asparagus deflexus*, from seed sown in the spring of 1897, was to be seen in large quantities interspersed among flowering plants. For relieving the heaviness, or rather nakedness, of a great ugly roof of a high greenhouse or conservatory, nothing could well surpass *Cobæa scandens* as seen at Claremont. Two plants are equal to festooning the roof in a most attractive manner, the long trails of handsome green leaves, large purple flowers and numerous egg-shaped seed-pods favourably impressing all who see them. In an adjoining tall house originally constructed for Palms there is an extraordinary tree of *Noisette Rose Rêve d'Or*. It was planted sixteen years ago, and now covers a trellis surface equal to 900 square feet, reminding me of the magnificent specimen of *Fortune's Yellow Rose* to be seen in the conservatory at Berkeley Castle, Gloucestershire.

Having been a fruit and vegetable garden so many years, I should not have been surprised to find many of the fruit trees against the walls and in the open in a worn-out state, or showing signs of exhaustion, but nothing could be further from the actual state of affairs. The walls are, as a rule, 12 feet or more in height, and throughout are perfectly furnished with fruit trees. The Plum trees are in perfect health and are really inclined to be too vigorous, Mr. Burrell allowing some of the topmost young shoots to extend temporarily each season by way of an antidote to over-luxuriance. The trees bear well, and the fruit I saw was of exceptionally good quality, or such as would have won prizes at the Crystal Palace show. The Peach and Nectarine trees, again, are in a healthy, productive state, the fruit produced being of the best quality this season. Apples and Pears are in an equally satisfactory condition, the fruit of the former growing larger than is often seen under ordinary garden culture.

Having only a few hours previously left the Crystal Palace show, where so many gardeners were complaining of the scarcity of green vegetables and the lightness of crops generally, I expected to find something of the same character at Claremont, but Mr. Burrell is in the happy condition of having crops equal, or even superior, to what are usually met with elsewhere in the most favourable seasons. To good cultivation and a free-working or non-binding, non-cracking surface soil may be attributed this success. Borecole, Broccoli, and Brussels Sprouts were all to be seen in a luxuriant condition and free of caterpillar. Excellent Cabbage was being cut, and Mr. Burrell has every reason to speak favourably of Garden Drumhead as a good summer Cabbage. Bristol market growers have formed an equally good opinion of the merits of this variety, caterpillars not disfiguring the hearts as they are apt to do conical-shaped Cabbages. The Onion crop was exceptionally good, and nowhere else have I seen a better lot of "bulbs." The estimated weight grown per square rod was 1½ cwt., or 10 tons to the acre. Giant Zittau and Brown Globe are the varieties grown at Claremont, and two more serviceable or profitable sorts could not well be named. The Potato crop was also a great success, and the envy of a market grower, who grows Potatoes on a large scale, accompanying me. Of Windsor Castle, perhaps the most popular variety in cultivation, the crops lifted were equal to 12 tons per acre—nearly all

"ware" or large, saleable tubers, too. Mr. Burrell also speaks very highly of Ninety-fold. This kidney he finds earlier than Windsor Castle, the crops equally heavy and the quality unsurpassed. W. IGGULDEN.

ORCHARD AND FRUIT GARDEN.

RENOVATING FRUIT BORDERS.

WHEN it is considered how little trouble is involved in giving assistance to partly worn-out borders, and how greatly the trees appreciate this attention, it is singular that this detail of culture is so long postponed. Many growers, for some reason or other, seem very much averse to breaking into a fruit border whether it is in a Peach house or vinery. A great deal, of course, may be done by judicious surface feeding, but there comes a time when the best made borders require renewing, and whether this is done wholly or in part largely depends upon circumstances. In my own case a scarcity of good loam prevents the attention necessary being given to trees outside, and doubtless there are many others similarly placed. Most of the inside fruit borders here have been made within the last few years, so that the trees have still a good deal of the initial vigour in them. They have, however, carried big crops, so I am renovating the greater part of the borders in a 30 feet by 16 feet house, to prevent any loss of vigour or exhaustion. A Vine, for instance, weakened by carrying a large crop from a rather poor border will take several seasons to get over the check. Peach or Nectarine trees starved into making poor growths one season, start weakly the next, and instead of the basal shoots coming away with vigour, these make a few leaves only, and one has to make the best of foreright shoots. A few seasons like this and the most of the growth will be on the outside of the tree, all the centre being bare; consequently only half the space covered by the tree is profitable. With properly-fed Vines or Peach trees there is no difficulty in getting the growths where they are wanted.

An excess of vigour is, of course, just as much to be guarded against as the reverse conditions, and this will be kept in mind when making new or renovating old borders. The present is the best season to do such work, and it must be done as thoroughly and with as much despatch as the circumstances of the case will allow. My compost has been gradually accumulating and is now all ready for use. It consists of all the loam that could be spared, this being helped out by edgings of turf, potting bench refuse, and a large proportion of burnt garden rubbish prepared as recently described by several correspondents. Where lime is deficient in the natural soil, this should be added in some form or other. Wind-slaked chalk lime is an excellent addition where plenty of rough material already exists or is added in the form of broken brick, charcoal, or even flints if nothing else can be had. But the fining tendency of pure lime must not be lost sight of, and for this reason I always like a good percentage of old lime rubble in preference if it is to be had. There is not the same amount of strength in it, of course; pure lime unlocks other chemical constituents in the soil to its benefit which the lime rubble does not perhaps so quickly, but by acting mechanically it prevents stagnation and ensures a supply of air to the roots. All compost should if possible be ready a month before it is required for use, and is better for being turned twice or thrice to well incorporate

all the ingredients. All being in readiness and in the dry, no delay will be caused when the work is about.

Taking Vines first, if these seem to be in fair condition at the roots and only require a little fresh soil, this may be given by beginning at the back of the border furthest from the stems and taking the soil out. Possibly there will be no roots. In this case follow the border back, making a kind of trench, and throwing the soil right out until roots are found. An inspection of these will show what is wanted. Often all that is necessary is to work out with a four-tined fork all the old soil from among them, going back about a yard or so. Then relay in the new compost and replace all soil taken out with new. If this is done a little at a time and carefully, not the least harm can possibly accrue to the Vine roots, and the foliage being still on the Vines a good soaking of water may be given, and they soon regain a hold. They should be kept fairly high up in the border, the upper tiers being covered with a few inches only of soil. Ram the new material very firmly as it is brought in, avoiding, of course, injury to the roots in doing so. With regard to Peach and Nectarine trees much the same plan is followed either inside or out. Very often indoor trees have larger, more vigorous roots than are necessary, this being especially the case with young trees that have only been lightly cropped. Then the autumn treatment takes the form of simply root-pruning, very little new soil being needed in such cases. Search out the long, thong-like roots and cut them off with a keen knife, relaying all the smaller more fibrous portions with care. But when taking the soil out at a considerable distance from the tree, I take little account of the roots, for if the ends are cut they soon start again and ramify in the new compost to the benefit of the trees. Here, again, firm soil is an absolute necessity if the right kind of roots and wood is to be produced. All this, though it seems a big job, gives very little trouble in reality; it may be carried out in wet weather when men can be easily spared from outside, and is of the greatest benefit to weak trees.

H.

Apple Tyler's Kernel.—At the present time I have before me a perfect specimen of Tyler's Kernel Apple, one out of many produced by a single pyramid tree I planted about four years ago, and the good character given me of this variety by a friend has been amply borne out by experience. Although classed as a cooking Apple, it is not to be despised for dessert, medium-sized, highly-coloured fruit forming a perfect dish any time from October to January. The tree grows moderately strong and bears freely almost from the commencement. The fruit is medium-sized to large, conical in shape, and where exposed to the light and air colours grandly. Curiously enough, not many trees of it appear to have been planted by either market or private growers, and the sooner this mistake is rectified the better. At the Crystal Palace show Messrs. Veitch and Sons exhibited a large basket of fine fruit of this Apple.—W. I.

Packing Peaches.—I have seen an illustration of the first prize box of Peaches at the late Palace show. These were sent by train, as if being sent to market, the Peaches being embedded in wood-wool. My favourite way of packing Peaches is first of all to line a box, just deep enough to hold a single layer of fruit, with coarse cotton-wool, which can be purchased at a nominal price in long rolls, then to encircle each Peach with narrow strips of the wool, taking care to place the glazed side next the fruit, packing them closely and firmly together, and finally laying on the top a sheet of wool. When the lid is on, damage from bruising is next to impossible, as

the fruit cannot stir. When the lid and top sheet of wool are removed, the top of each fruit is visible and the fruit has a neat and attractive appearance. I first saw this plan of packing adopted by Mr. Edmunds, of Bestwood, who often exhibited Peaches, and after long rail journeys and frequent changes his fruit always turned out well.—N.

Plum Coe's Golden Drop.—At page 306, "W. S.," in referring to this fine dessert Plum, notes that occasionally fruits are kept well into November. This is correct, and I remember seeing a magnificent dish shown from Rendlesham Hall, at Ipswich, in the second week in November. On speaking to the exhibitor about them, he informed me that the fruits had been finished off on a shelf in a cool, dry vinery, and also, I think, wrapped separately in paper. I think, however, that in the majority of instances these late fruits

when ripe to yellow and having a large number of russet spots. The flavour is distinctly good, and from healthy trees there is none of the hard, gritty core so often complained of with this kind. It should hang until it parts readily from the tree.—SUFFOLK.

FRUIT TREES ON ARCHES.

THE photograph of fruit trees on arches which I sent you was taken by my son, Mr. Scott Wilson, at Oakwood, Wisley. Many years ago I saw at Wandsworth Common arches of this sort which had a good effect. I copied these in the garden here, putting arches over the walk which divides the vegetable from the flower garden, and as this was successful and made a good boundary, I adopted the plan at Wisley,



Fruit trees over a pathway in Mr. G. F. Wilson's garden at Wisley. From a photograph by Mr. Scott Wilson.

are from standard trees. These are always somewhat late in ripening, especially in ordinary seasons, and if left on the trees too long are apt to split should the weather be showery. If gathered in the nick of time and treated as above described useful late dishes may be had. Those referred to were fine in colour and quite plump. My experience with Golden Drop is that the locality must be a favoured one for standard trees to bear regularly even half a crop.—C.

Pear Beurre Diel.—This is one of the hardiest of the Beurré race and an excellent variety for cold or exposed positions. It will also thrive in poor and heavy soil where many first-class Pears are a failure. An old espalier tree here fruits every season, while young pyramid trees on the Quince planted two years ago have given some useful fruit this season. The fruit is large, with a long stem, the skin green, changing

and as the trees were already in their places, trained one side of them over the arches. The first arch has the Dartmouth Crab trained over it; this is beautiful both in flower and fruit. The other trees are principally Pears and Plums. The end arch has on it Turner's Crimson Rambler and Paul's Carmine Pillar Roses, as it joins on to part of the flower garden.

GEORGE F. WILSON.

Heatherbank, Weybridge Heath.

Compost for Muscat Grapes.—At one time it was universally thought that a strong yellow loam produced the finest Muscat Grapes. Lately, however, some writers have maintained that a light soil and a liberal quantity of sand are what this somewhat capricious Grape needs. The fine

bunches recently exhibited at the Crystal Palace by Mr. Allan, gardener to Lord Hillingdon, were cut from Vines growing in a strong clayey loam, kept open by the addition of plenty of rubble. At Hillingdon shanking gives little trouble, the berries keep plump till late in the season, and the Vines last many years. Although the bunches under notice were cut from young Vines, there are old Vines growing in the same kind of loam which produce first-rate crops of long-keeping Muscats. Comparatively few really fine Muscats are grown in Norfolk, the reason being, according to the opinion of a practical old Grape grower, the too light nature of the soil procurable for making the borders. The Hillingdon Muscats were grown in a span-roofed house, and the majority of the bunches now hanging on the Vines are almost as good as those exhibited.—N.

Peach Princess of Wales.—I am obliged to "M. T." for his hint respecting pot trees of this Peach, for I would really like to grow this fine variety well. It is rather curious and, perhaps, worthy of note that some few of the later fruits on my tree were excellent, and this appears in a way to bear out what "M. T." says about the warmth later, for the weather was much warmer here in early October than usual. I shall certainly try one or two pot trees.—H.

—Doubtless the flavour of Peaches varies in different soils and situations. I do not think that the majority of gardeners will agree with "H." (p. 255) that Princess of Wales is a flavourless variety. In a sheltered old garden near Cromer, Princess of Wales from an open wall was of excellent flavour, and at Blickling, where good flavoured Peaches are a speciality, this variety is appreciated, more so than Sea Eagle, the tree here growing in a late house and occupying the front trellis, the fruit ripening early in September. At Kelham Hall, Newark, Mr. Webb grew Princess of Wales in an east aspect Peach-house in company with Walburton Admirable, and he used to think the Princess the better flavoured of the two. Had it not been at least of average flavour, generally speaking, I do not think it would have remained popular so long, as flavourless varieties, though fine in appearance, soon fall into disrepute, as, for instance, Lord Palmerston. It would, however, be interesting if other growers would give their opinion of this variety.—NORWICH.

TREE TOMATO.

(CYPHOMANDRA BETACEA.)

A LARGE plant of this, bearing about 200 ripe fruits, is now a conspicuous feature in the Mexican house at Kew. The plant is a seedling, about two years old, with a clear stem 5 feet high and a large spreading head, having numerous large bright green heart-shaped leaves, each from 6 inches to a foot in length, in the axils of which the short pendent racemes of flesh-coloured flowers are produced in spring and are succeeded in autumn by clusters of from three to six fruits, which are egg-shaped, 2 inches to 2½ inches long, smooth, and when ripe coloured bright orange-yellow, with a few streaks of a darker colour. A cross section of the fruit shows a skin or pericarp nearly a quarter of an inch thick, fleshy and orange coloured, enclosing a juicy pulp and seeds not unlike those of a Gooseberry or the fruit of *Passiflora edulis*. Eaten raw the fruit suggests a mixture of Passion Flower and Tomato, and is both pleasant and refreshing. On the mainland of Central America it is known as the Tomato de la Paz, in Jamaica as the Tree Tomato, and sometimes, on account of its supposed beneficial action on the liver, as Vegetable Mercury. Seeds of it were distributed from Kew some years ago, and it is now popular in some of our tropical colonies and in India. In Ceylon, at Hakgala, 6000 feet above sea-level, where the climate is temperate, it grows to a height of about 10 feet, and the fruits are used in various ways. They make excellent tarts, are very good stewed, and are much relished by most people when quite ripe and eaten raw like Gooseberries. The plant is very robust and easy to grow in Ceylon, and I believe it will thrive

and be very profitable from an elevation of 2000 feet to 6000 feet. Under favourable conditions the plant remains in bearing for many (ten or more) years. The fruit keeps well after being gathered, has a tough skin and travels well, and it is attractive in form and colour.

Being so easily grown in an intermediate house, or even a sunny greenhouse, in this country, and bearing an abundant crop of fruit in about two years from planting, this is surely a plant to be brought into general cultivation. Even if the fruits were not edible, the plant bearing them is good to look at. The plant is as easily managed as the Tomato, but it requires more space. It is a native of the Andean regions of Tropical America, and appears to have been first introduced under the name of *Solanum betaceum*.

W. W.

NOTES AND QUESTIONS.—FRUIT.

Apple American Mother.—I was not aware until lately that this Apple would succeed as a pyramid even in northern localities. I have only tried it in espalier form, but have not succeeded in inducing it to fruit freely. Presuming, however, the version as to its hardness and free-fruited character being correct, no garden should be without at least one tree of this handsome conical, richly-flavoured Apple.—C, Norwich.

Apple Lord Derby.—Intending planters having a strong soil may plant Lord Derby with every confidence. It would be difficult to name a better all-round cooking Apple or a more constant bearer. When at its best about Christmas it is a very good dessert Apple. In a strong, retentive loam at Kelham Hall Lord Derby grows and fruits to perfection, and is regarded as one of the best market Apples of its season.—C.

PUBLIC GARDENS.

CHRYSANTHEMUMS IN THE PARKS.

VICTORIA PARK.

THE atmospheric conditions which usually prevail here militate against the successful cultivation of the Chrysanthemum. Some 2000 plants comprise the collection, and as this embraces all types of the flower, the display is thoroughly representative. The arrangement of the plants, in which undulating groups run through the whole length of the show-house on either side, and in which the disposition of the colours was well conceived, was pleasing. The breaking up of the groups with masses of some of the prettiest of the decorative sorts, such as Ryecroft Glory and other equally valuable varieties, also lent considerable effect to the display. One specially noticeable feature was the brightness of the respective colours. Late buds of M. C. Molin were developing blooms of the brightest bronze-crimson. An old sort, Gloire du Rocher, showed blossoms of high quality. President Borel, rarely seen in collections now-a-days, was of large size, refined, and of a bright carmine-rose colour. Mme. Edouard Rey, with large massive incurved Japanese blooms; Hamlet, a popular flower of a few years since, and quite up to the original standard; William Tricker, noticeable on account of colour; Col. W. B. Smith, Amiral Avellan, and M. Pan-koucke each were represented by fine blooms, and proved that many of the older sorts when properly grown are quite equal to a large number of the newer sorts. Of the newer Japanese varieties, those calling for special mention are N.C.S. Jubilee, represented by blooms of massive build, and of a pleasing silvery lavender tint; Australia, particularly good, and striking in appearance; Mrs. Hume Long, coming as fine from late buds as one could wish, with broad petals of great length and of a rich rose-pink colour, so different from an early bud selection, and Marjory Kinder, a rich yellow of splendid substance. Lady Byron as seen here proves that the variety, although a beautiful white, does well even under impure atmospheric conditions. Nor must we

omit to mention Lady Ridgway, a massive salmon-buff incurved Japanese flower, and the green-tinted Mme. Ed. Roger. Decorative Japanese varieties were represented by Source d'Or, the old gold flowers of which were very welcome, Mr. Chas. E. Shea, the lovely soft yellow sport from Mlle. Lacroix, and others. Very charming were the Anemones, most conspicuous being freely-grown plants of Descartes, and as seen in flowers from late buds, the crimson-red colour was most effective. Gluck, too, is still valued for its consistent behaviour, although the blossoms are not by any means large. Fleur de Marie, white, and Mrs. Judge Benedict, opening pale blush, passing with age to white, with a lemon-coloured disc, were often in evidence with typical blooms. M. Charles Lebocqz, a fine citron-yellow-tinted carmine, and in conjunction with a new pure white named Mrs. Caterer, very freely flowered, contributed much to the display. Pompons, such as Mlle. Elise Dordan were grouped in clumps, and these, together with some of the best singles, including Miss Mary Anderson, as a fringe to the groups on either side gave a pretty finish. Among the incurved sorts Prince of Wales, very rarely indeed seen at exhibitions now, was very good; Prince Alfred, also one of the older types of the flower, and the members of the Rundle family were charming. Those of more recent introduction were seen in Baron Hirsch, the bronzy crimson colouring being quite distinct from that of all others; Chas. E. Curtis, very even; Yvonne Dasblanc and Mons. Dasblanc, also welcome on account of their neat and even form. Mention must be made of the value of some pretty little plants of the rich crimson reflexed Cullingfordi.

FINSBURY PARK.

Chrysanthemums are usually well grown here, and this year's display was one of the best we have seen. The show-house, specially constructed for these annual displays, is an ideal place for the purpose. A long series of imposing groups running continuously from one end of the structure to the other, with a semi-serpentine path along the front, gives a most picturesque effect to the arrangement, and there is much in the method to commend it. The somewhat slender-looking iron pillars supporting the roof have grouped around them bush plants of popular Japanese sorts, well-grown specimens of Margot and the pure white Lady Selborne relieving the greenhouse of much of the undesirable effects of its inartistic supports. Along the back of the group, and forming an admirable background, were other freely-flowered specimens, the old l'He de Plaisir with its pretty deep crimson blossoms being most effective. It is a pity this system of culture is not more often recognised, as a few plants judiciously placed assist so much to relieve the stiffness which generally characterises the grouping together of the larger flowers.

At Finsbury Park the Chrysanthemum is grown in large numbers, 4000 plants of different types of the flower receiving attention. In addition to the ordinary show house a large conservatory has to be furnished, and this being filled with freely-flowered specimens in conjunction with the free use of fine-foliaged plants for a background and for associating with the flowers, a most elegant arrangement was seen.

Incurved varieties represented in good form this season are Baron Hirsch, still one of the easiest and most certain varieties to grow; Prince Alfred, with neat and even finish; Mrs. Heal, very like Princess of Wales; Mrs. R. C. Kingston, a splendid incurved flower of refined form and delicate colouring—pale lilac-pink, tinted white; Prince of Wales, The Egyptian, a coarse-looking blossom; Barbara, Chas. E. Curtis, grand flowers, clear yellow; Mrs. George Rundle and its sports. Japanese sorts are always well done at Finsbury Park, and this reputation is again borne out. Of the older varieties succeeding well this season are Louise, with its white and rose-tinted blooms; Mrs. E. G. Hill,

pale flesh-pink; Phœbus, still one of the best yellows; Mons. Chas. Molin, in fine form and colour, more particularly from a late bud selection; the dwarf crimson-flowered J. Shrimpton, an ideal plant for grouping; G. C. Schwabe, Golden Gate and Hairy Wonder, represented by flowers in all stages. Edouard Audiguier, the rich purple-amaranth, with silvery reverse, which caused such a sensation some years ago, was also striking in appearance. Edith Tabor may be counted as a yellow sort that has exceeded most growers' expectations this season; Mrs. J. Shrimpton, Vivand Morel and Chas. Davis, each calling for a word of praise. Newer Japanese were dotted here and there among the others and created considerable interest. Mrs. A. Cross, a large rich yellow; N.C.S. Jubilee, pale silvery lavender, of incurved Japanese form; G. J. Warren, the rich yellow sport from Mme. Carnot; Master H. Tucker, crimson, with gold reverse; and Mrs. H. Weeks, the refined and massive white incurved Japanese, doing much to provide the necessary novelty. Anemones as seen in Sir Walter Raleigh, Mrs. Judge Benedict, Marguerite Solleville, deep lilac, and other standard sorts were also good. Reflexed, pompons and singles each made a goodly show, and the representative character of the display must contribute in no mean degree to the lively interest in the Chrysanthemum in North London, judging by the immense number of visitors.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

NOVEMBER 8, 9, AND 10.

THE annual show of this society, held on the above dates at the Royal Aquarium, Westminster, may be considered a success. With but very few exceptions, the prizes offered in the different classes were well contested, and many exceedingly close competitions have to be recorded. The Japanese blooms as a whole were well represented, though not so generally even as in most seasons. While there were many huge blooms also possessing good form and colour, there was a greater number which may be characterised as somewhat lacking in substance. Considering the drought and great heat of the past season, it is surprising that the incurved blooms were so freely shown and in such good form. There were many very rough and irregular flowers. Decorative exhibits were numerous and pretty. The trained plants were below the average, and better exhibits will be most desirable in competition for the handsome prizes which the society now offers. Groups both in the competitive and non-competitive classes were very handsome. It is pleasing to record that the greater part of the ground-floor space was occupied by Chrysanthemum exhibits, and viewed from the different galleries, presented a bright and striking appearance. The building, too, seemed to be better ventilated than usual. When it became necessary to ventilate this vast structure, it was at once apparent that special pains had been taken to add materially to the lighting arrangements, and when these were completed it was quite an easy matter both to scrutinise individual blooms and their names. Vegetables were splendidly staged. These, with the specimen Chrysanthemum plants, occupied the St. Stephen's Hall, the latter being arranged on the floor down the centre of the building.

CUT FLOWERS.—OPEN CLASSES.

The only mixed class in the numerous competitions was that for forty-eight blooms, to consist of twenty-four incurved (distinct), and twenty-four Japanese (distinct), open to Chrysanthemum and horticultural societies only. On this occasion there were three competitors, first prize being secured by the Portsmouth and District Horticultural Society, the whole of the blooms coming from the establishment of Mr. James Agate, nurseryman, Havant, Hants. His best Japanese flowers were Jane Molyneux, of

pleasing form and loose build; Mrs. W. Mease, Col. W. B. Smith, Vivand Morel, Lady Hanham, Milano, Australie, and M. Pankoucke. Incurved blooms were best represented by Baron Hirsch, Mrs. N. Molyneux, Princess of Wales, Violet Tomlin, Lucy Kendall, and Globe d'Or. The Bromley and District Chrysanthemum Society was a close second, the Japanese blooms being particularly fine, and included notable examples of G. J. Warren, Lady Ridgway, Mme. Carnot, Milano, Mutual Friend, Mrs. H. Weeks, and Chas. Davis. The incurved were less even, Globe d'Or and Robt. Petfield being the best. The classes in which the Holmes Memorial challenge cups are offered with valuable money prizes are generally well filled. For thirty-six incurved blooms, distinct, we understand that Mr. W. H. Lees would have been placed first had he not unfortunately staged Mrs. Heale and Princess of Wales on the same board. These two sorts the classification committee have decided are too much alike, and could not therefore be used in the same competition. His flowers were distinctly good and even in form. First prize consequently fell to the lot of Mr. W. Higgs, gardener to Mr. J. B. Hankey, Fetcham Park, Fetcham. These were a heavy lot of flowers, some rather rough and not so even as usual. The leading blooms were Duchess of Fife, Ma Perfection, Miss Dorothy Foster, Mme. Ferlat, J. Lambert, Mrs. R. C. Kingston, George Haigh, Princess of Wales, D. B. Crane, Mrs. Coleman, Jeanne d'Arc, Mme. Darrier, and C. B. Whitnall. Mr. J. H. Goodacre, gardener to the Earl of Harrington, secured second place with large blooms, several of which were rough and uneven in form. In the class for forty-eight Japanese blooms, distinct, which is the chief cut bloom class of the show, Mr. W. H. Lees, gardener to Mr. F. A. Bevan, Trent Park, Barnet, was first. His stands contained a large number of typical Japanese blooms, showing the very best culture. Exceptionally fine were his flowers of Surpassé Amiral, Australie, Lady Ridgway, Mme. Carnot, M. Chenon de Leche, Mrs. G. W. Palmer, Robt. Powell, J. Bidenscope, Edith Tabor, Nellie Pockett, Mrs. F. A. Bevan, Vivand Morel, Souv. de Mme. E. Rosette, Simplicity, Louise, Mrs. W. H. Lees, Col. Chase, Mutual Friend, Chas. Davis, Mrs. W. Mease (primrose Mme. Carnot), M. Hoste, Mrs. C. H. Payne, Ella Curtis, Mrs. H. Weeks, J. Chamberlain (rich crimson), Phœbus, Chatsworth, Mrs. Lewis, and a magnificent bloom of T. B. Haywood. Mr. Frederick Vallis, Bromham Fruit Co., Ltd., Bromham, was second with wonderfully fresh, clean, and large blooms of high quality. His bloom of G. J. Warren, one of exceptional merit, secured Mr. Simpson's special prize and an oil-painting of the flower itself, as being the premier Japanese bloom in the exhibition. Other sorts deserving mention were Mme. P. Rivoire, Mrs. Mease, Mrs. G. W. Palmer, Mons. Chenon de Leche, Mons. Hoste, Vivand Morel, Sec. Fierens, Mutual Friend, Swanley Giant, Viscountess Hambledon, Edwin Molyneux, Phœbus, and Chas. Davis. Mr. Mease was third. On this occasion, and for the second consecutive time, Mr. Norman Davis, The Vineries, Framfield, Sussex, won the Turner Memorial cup, this, therefore, becoming his own property. The competition was for thirty-six blooms of white, yellow, and crimson Japanese Chrysanthemums in twelve varieties, three blooms of each. Mr. Davis staged Mme. Carnot, Mutual Friend, Mme. Gust. Henri, and Mrs. S. C. Probyn as whites, Joseph Chamberlain, E. Molyneux, Dorothy Seward, and General Roberts as crimsons, and as yellow sorts G. J. Warren, Oceana, President Nonin, and Phœbus. The only other exhibitor was Mr. W. J. Godfrey, Exmouth, who also had a fine lot of blooms, and was awarded second prize. Reginald Godfrey was a striking crimson variety in his collection. To commemorate the twenty-first show held in the Royal Aquarium, the chairman and directors of the company offered valuable money prizes for twenty-four Japanese blooms, distinct. A collection of extra

excellence gained first prize Mr. R. Kenyon, gardener to Mr. A. F. Hills, Monkham, Woodford Green, Essex. The best blooms were Mons. Hoste, Master H. Tucker, Chas. Davis, Secrétaire Fierens, Lady Hanham, Dorothy Seward, Vivand Morel, Mrs. H. Weeks, Mons. Chenon de Leche, Mrs. J. Lewis, Mme. G. Bruant, Phœbus, Mlle. Desblanc, Soleil d'Octobre, John Neville, Mr. Mease, gardener to Mr. A. Tate, Downside, Leatherhead, occupying second place with a grand lot of flowers. Other open classes included one for twenty-four incurved blooms, distinct, Mr. Higgs again occupying premier position. Good examples were staged of Duchess of Fife, Chas. H. Curtis, R. Petfield, Ma Perfection, Mme. Ferlat, James Agate, Baron Hirsch, George Haigh, Jeanne d'Arc, and a charming bloom of Mrs. R. C. Kingston. Second prize was secured by Mr. W. Wilson, gardener to Mr. R. C. Christie, Ribsdon, Updown Hill, Bagshot. No less than nine competitors were forthcoming in the class for twelve incurved, distinct, first prize going to Mr. G. J. Hunt, gardener to Mr. Pantia Ralli, Ashstead Park, Epsom, who staged a grand lot. Particularly good were Duchess of Fife, Chas. H. Curtis, J. Lambert, Mrs. S. Coleman, Globe d'Or, and Empress of India. Mr. W. Robinson, gardener to Lord Ludlow, Heywood, Westbury, was second with rather rough and uneven flowers. For six blooms of one variety of incurved Mr. G. J. Hunt was first for superb examples of Duchess of Fife, Mr. W. L. Farmer, gardener to Mr. H. P. Leschelles, Highams, Windlesham, Surrey, coming second with handsome flowers of Chas. H. Curtis. For twelve Japanese blooms, distinct, premier honours were secured by Mr. W. Meredith, gardener to Mr. D. P. Sellar, Dudbrook, Brentwood, with fairly heavy blooms of M. Chenon de Leche, Mons. Hoste, Mrs. G. W. Palmer, Chas. Davis, George Seward, Mons. Pankoucke, and T. B. Haywood. A pretty, fresh and neat stand of blooms, obtained second prize for Mr. F. W. King, gardener to Mr. A. F. Perkins, Oakdene, Holmwood. Mr. Norman Davis was an easy first for six Japanese, white, one variety only, with superb examples of Mme. Carnot beautifully finished, and Mr. G. Fisher, gardener to Mr. H. Hammond Spencer, Glendaragh, Teignmouth, followed with rougher and less pretty blooms of the same variety. For six yellow Japanese, one variety, Mr. H. Shoesmith, Claremont Nursery, Woking, was first with handsome flowers of the ever-popular Phœbus, Mr. James Agate being second with neat and pretty flowers of Mrs. W. Mease. A more limited entry for six Japanese, one variety, any colour except white and yellow, was forthcoming, Mr. J. W. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, Hants, being placed first with grand blooms of Australie; second prize was won by Mr. W. Slogrove, gardener to Mrs. Crawford, Gatton Cottage, Reigate, who had Lady Hanham. But three entries were staged in the class for six Japanese incurved, distinct, the selected varieties winning first prize being John Pockett, Pride of Madford, President Bevan, Australie, Australian Gold and Mons. Gerard, these coming from Mr. H. Perkins, gardener to the Rt. Hon. F. W. D. Smith, M.P., Greenlands, Henley-on-Thames. Mr. John Justice, gardener to Sir Richard Temple, Bart., The Nash, Kempsey, was second. Only three stands were seen in the hairy-petalled class for six Japanese, not less than three varieties. These were a poor lot, Mr. H. Love, Sandown, Isle of Wight, showing Hairy Wonder, Mrs. Dr. Ward, Abbé Pierce, Arthur and Beauty of Truro. Mr. Justice was again second, showing a moderate lot of blooms. For the valuable prizes offered by Mr. H. J. Jones for two blooms each of Mme. Carnot, Mrs. Wm. Mease and G. J. Warren there were eight competitors, Mr. W. Mease being an excellent first with neat and heavy blooms of each sort. Mr. Higgs was second with smaller flowers. Proof of the declining interest in the reflexed blooms was again seen, only two competitors staging twelve blooms in not less than nine varieties. Mr. T. Cayer, gardener to Mr. A. G. Meissner, Alderholme,

Weybridge, was placed first with moderate flowers with little to commend them. Mr. W. Robinson was second, Miss Florence Lunn (amaranth) being the most notable. Five stands were placed in competition for the prizes offered for twenty-four large-flowered Anemone kinds, including Japanese, distinct. This was a very pretty display. Mr. W. King, gardener to Mr. James Warner, Capell House, near Waltham Cross, was a good first with an even, fresh, and clean lot of flowers. Mr. Wm. Skeggs, gardener to Mr. A. Mosely, West Lodge, Hadley, Barnet, was awarded second prize for a less even display. Mr. Justice was first out of five entries for twelve large Anemones, Japanese sorts excluded, Descartes, Fleur de Marie, Lady Margaret, Lady Temple, Mrs. Judge Benedict, E. C. Jukes and Delaware being the best. Mr. W. King was placed second, also with a nice lot of blooms. Twelve Japanese Anemones (distinct), brought out six exhibitors; the stand securing first prize contained a beautiful lot of flowers of even finish and good form. This came from Mr. W. Robinson, and well merited the distinction it gained. W. W. Astor, Enterprise, Mrs. Caterer, M. Dupanloup, Sir Walter Raleigh, John Bunyan, Sœur Dorothee Souille, and Mr. H. H. Gardiner were the best examples. A pretty lot of flowers, in which were some individual blooms of considerable merit, placed Mr. W. Skeggs second. Mr. Justice again led with a nice exhibit of Anemone pompons. Mr. T. Caryer, out of five competitors, was placed first with a beautiful lot of twelve pompons, distinct, three blooms of each variety. They were not too large, were prettily set out, and embraced a pleasing variety of colour. His varieties were William Westlake, Perle des Beautés, President, Mlle. Elise Dordan, Pygmalion, La Vogue, Osiris, Mme. Marthe, Rubrum Perfectum Toussaint Marizot, Black Douglas and Mr. Holmes. Mr. W. Aldridge, Palmers Green, was second. Single Chrysanthemums made a pretty show and a pleasing variation. Those from Mr. Aldridge were a very even and well-developed lot of blooms, and well deserved the first prize. Alphonso, Admiral Sir T. Symonds, Oceana, Miss A. Mumford, Ewan Cameron, and Framfield Beauty were his most conspicuous blossoms. Second prize was credited to Mr. G. W. Forbes, gardener to Mme. Nicols, Regent House, Surbiton.

AMATEURS' CLASSES.

The leading prize for eighteen Japanese, distinct, was won by Mr. L. Gooch, gardener to Mr. T. Wickham Jones, Frocester Lodge, South Norwood, with a good lot of flowers, followed by Mr. A. Hooney, gardener to Mr. G. H. Cox, The Grange, East Barnet. A spirited competition for twelve Japanese, distinct, was seen, no less than twelve stands entering. A creditable lot of blooms secured leading honours for Mr. W. A. Brown, gardener to Mr. H. W. Silens, The Pines, Horsell, Woking, Dorothy Seward, Lady Ridgway, Modesto and Lady Hanham being good; Mr. R. Gladwell, gardener to Mr. Sydney Smith, Wende Hall, South Norwood, being a close second. Mr. Gladwell was first out of nine competitors in the class for six Japanese, distinct, showing a very lovely lot of flowers; Mr. W. Perrin, gardener to Mr. C. W. Richardson, Sawbridgeworth, second with Simplicity and Emily Silsbury in fine form. Mr. J. Denyer, gardener to Mr. Edwin Smith, Ingleside, Chatham, was first with Phœbus for six Japanese, one variety, second prize falling to Mr. J. Acock, gardener to Mrs. Bacon, Worcester Road, Sutton, with well coloured blooms of Vivian Morel. In the incurved classes Mr. C. E. Wilkins, Wellington, Swanley Junction, was first for twelve distinct, staging very neat and pretty blooms of Lady Isabel, Mrs. R. C. Kingston, Chas. H. Curtis, Mrs. R. Owen and Globe d'Or; Mr. A. Honey was second. For six incurved, distinct, Mr. Wilkins again led, followed by Mr. W. Leppard, gardener to Mr. F. Vigers, Oakdene, Reigate. In the class for six incurved, one variety, Mr. Honey led with neat and not over-large C. H. Curtis; and with Austin Cannell, Mr. Wilkins was

second. For six bunches pompons, distinct, Mr. W. Aldridge was a capital first with bright and pleasing examples, Miss R. Debenham, St. Albans, being second. There were five competitors in the class for eighteen Japanese, distinct, for which Mr. G. P. Linford gave a silver cup, and for which the society offered additional money prizes. First prize was won by Mr. A. R. Knight, 63, Hardinge Road, Ashford, Kent, who had a nice lot of flowers of good form; Mr. Martin Silsbury, Shanklin, Isle of Wight, was a good second with a bright display of blossoms, not quite so heavy, but of good colour. Mr. H. A. Needs, Heathview, Horsell, Woking, secured leading honours in the class for twelve Japanese, distinct, with a very fine lot. Miss Elsie Teichmann, Mrs. G. W. Palmer, Mme. Couvat du Terrail, Edith Tabor, E. Molyneux, and Lady Ridgway were his best. Second prize was awarded to Mr. W. G. P. Clark, Hitchin, showing a considerable falling off. For six Japanese, distinct, Mr. Needs was again the fore with splendid examples, followed again by Mr. Clark. A very handsome set of six blooms of Phœbus secured for Mr. Norman Wrightson, 55, Elgin Road, Addiscombe, Surrey, first prize for six Japanese of one variety, Mr. Love showing a bronze seedling in taking second place. Mr. Knight was first for twelve incurved, distinct, with a neat and even lot of blooms, Bonnie Dundee being one of his best flowers, second prize going to Mr. J. H. Sharpe, Greenwood, Huntspill, Bridgewater, who followed closely, having good examples of D. B. Crane, Ma Perfection, and Duchess of Fife. Mr. Clark and Mr. Knight were first and second respectively for six incurved, distinct. The prizes for six bunches of pompons not disbudded, distinct, which were very charming, were secured by Mr. A. Taylor, East Finchley, and Mr. T. W. Preston, 8, Commercial Road, Peckham. Maiden growers were encouraged with four classes, the competition being quite extraordinary; fifteen in one class, sixteen in another, and so on will give some idea of the interest taken in the exhibition by budding enthusiasts. Messrs. H. Folke, Hemel Hempstead; A. G. Clinton, Horsell; J. Coomber, Kingston Hill; G. Hobday, Romford; and J. B. Purchase, Redhill, were the principal prize-winners.

PLANTS.

The circular groups, each 12 feet in diameter, were arranged in the south-western gallery. There was little to choose between them, the leading position ultimately falling to the lot of Mr. J. Spink, Sumner Road Nursery, Walthamstow. His group was surmounted by a splendid Cocos Weddelliana, and freely mingled with handsome Chrysanthemums were other Palms, Crotons, Ferns, &c., a fringe of fine-foliaged plants giving a neat finish. A good second was found in Mr. W. Howe, gardener to Sir Henry Tait, Park Hill, Streatham, who used graceful Bamboos for the centre, and who also had a tastefully arranged group. Four trained specimens were distinctly below the average. Mr. F. E. Wraight, gardener to Mr. J. Troup, Essex Lodge, Upper Clapton, was placed first with freely flowered plants too stiffly tied, second prize falling to Mr. F. Gilks, gardener to Mr. A. Morris, Court Green, Streatham, with large, rather flat specimens; Mr. J. Shrimpton and Col. W. B. Smith were his best plants. The only competitor—a beginner, by the way—in the class for six plants, large-flowered varieties, was Mr. F. Gilbert, gardener to Mr. W. A. Sewell, Fairlight, Shepherd's Hill, Highgate, who had a fairly even exhibit. The judges awarded only a second prize. Only one competitor—Mr. Gilks—entered for six standard-trained specimens, and although freely flowered and neatly tied, this style of growing specimen plants is distinctly inartistic and artificial. First prize was awarded in this instance. Mr. Davey, gardener to Mr. C. C. Paine, Hillfield, Haverstock Hill, N.W., was first with four standard-trained specimens, Eva Knowles, Cleopatra, Stanstead Surprise, and William Tricker representing his varieties. Mr. Wright occupied second position with a moderate lot of plants. For a single

specimen plant, Mr. Davey received second prize with an indifferently flowered Chas. H. Curtis.

DECORATIVE EXHIBITS.

Messrs. Perkins and Sons, Coventry, won first prize for a table of bouquets, wreaths, sprays, button-holes, &c., illustrating the decorative value of the Chrysanthemum. Several charming bouquets, harps, epergnes, stars, hand-baskets, and many other floral devices were perfect examples of artistic floral work. Miss Nellie Erlebach, The Florist, Stoke Newington, N., was second with a less pleasing arrangement of designs and with one or two individual illustrations of considerable merit. For three epergnes, suitable for dinner-table decoration, a light arrangement secured for Miss C. B. Cole, The Vineyard, Feltham, first prize, second prize going to Mr. F. W. Seale, Sevenoaks, for a very airy series of stands. Few of the arrangements showed a proper association of colours, which should always be the essential feature of such displays. For two vases of pompons arranged with any foliage for decorative effect, Mr. Mark Webster, gardener to Mr. E. J. Preston, Kelsey Park, Beckenham, was first, Mr. W. Green, Jun., Harold Wood, Essex, being placed second with smaller, but pretty vases of blossoms. For one vase of six blooms of Japanese flowers, one variety only, Mr. J. King, gardener to Mr. H. J. G. Lloyd, Itchel Manor, Crondall, Hants, was first with Edith Tabor in splendid condition, second prize being awarded to Mr. T. H. Lodge, gardener to Mrs. Nevet, Hockerill, Bishop's Stortford, with pretty blooms of Mrs. W. Mease. Mr. Mark Webster was again first for two superb bouquets, each lightly and tastefully finished, and Miss Easterbrook, Fawkham, Kent, won for hand-baskets. A vase of six blooms of any one Japanese variety, open to amateurs and maiden growers, brought out twelve competitors, and these in themselves made a grand show. First prize was secured by Mr. Thos. Perkins, gardener to Mr. W. F. Ward, 34, Bisham Gardens, Highgate, who showed a large bronze incurved Japanese variety, Mr. R. Chamberlain, gardener to Mr. F. M. Loneragan, Cressingham, Reading, following with a beautifully arranged vase of Phœbus.

FRUIT.

For three bunches white Grapes, Mr. W. H. Lees was first with beautifully even bunches and well coloured berries of Muscat of Alexandria, Mr. C. W. Cole, Feltham, securing second prize. For three bunches black Grapes (not Gros Colman), Mr. W. Howe had large, well-shaped, and beautifully coloured bunches, Mr. W. Taylor, gardener to Mr. C. Bayer, Tewkesbury Lodge, Forest Hill, S.E., taking second prize. Mr. Taylor was first for three bunches of Gros Colman, showing grand heavy bunches, Mr. F. Milsom, gardener to Mr. J. Stoddard, Forest Lodge, Tulse Hill, Brixton, showing smaller bunches, but splendidly coloured. For six dishes dessert Apples, Mr. H. Berwick, Sidmouth, Devon, was first with a bright lot of fruit, Ribston Pippin, King of Pippins, Wealthy, American Mother, and Adams' Pearmain being the best. The second prize lot from Mr. A. J. Thomas, Burgan Hill, was also a very fine exhibit. Mr. W. Stevens, gardener to Mr. G. H. Dean, Sittingbourne, Kent, was a good first for six dishes of cooking Apples, showing Glory of England, Mère de Ménage, Emperor Alexander, Lane's Prince Albert, Peasgood's Nonsuch, and Bramley's Seedling. Mr. A. J. Thomas was second with a handsome exhibit. Mr. Thomas secured premier honours with six dishes dessert Pears (fit for table), showing grand examples of Columbia, Maréchal de la Cour, General Todleben, Pitmaston Duchess, Princess, and Beurré Lamoyeau. A good second was found in Mr. H. Berwick, who had some grand dishes.

VEGETABLES.

For nine dishes of Potatoes, Mr. E. S. Wiles, gardener to the Hon. Evelyn Hubbard, M.P., The Rookery, Down, Kent, was a good first with a wonderfully even and clean lot of tubers, Mr.

Silas Cole, gardener to Earl Spencer, K.G., Althorp Park, Northampton, taking second place with a good set, but not so even as the first-prize lot. Nine entries for two dishes of Potatoes, to be selected from given sorts, found Mr. Cole to be the fore with grand examples of Supreme and Windsor Castle, Mr. H. Folke, gardener to Mr. E. Strachan, Gaddesden Place, Hemel Hempstead, with Supreme and Ideal taking second prize. The foregoing prizes were offered by Messrs. Sutton and Sons, Reading. A collection of nine kinds of vegetables for prizes offered by Messrs. Webb and Sons, Stourbridge, brought out five competitors. In this Mr. E. Beckett, gardener to Lord Aldenham, Aldenham House, Elstree, again asserted his superiority with a wonderfully fine collection admirably set up. Second prize was won by Mr. R. Lye, gardener to Mrs. Kingsmill, Sydmonton Court, Newbury, with an exhibit, although good, falling considerably short of the first-named. Mr. Robert Sydenham, Birmingham, offered five prizes in thirteen different classes for a variety of vegetables. In addition to the individual prizes, a handsome challenge cup, value 15 guineas, to be held by the winner of the greatest number of points, five points being allowed for a first prize and so on down to one for a fifth. In these competitions Mr. Beckett completely outdistanced his rivals, obtaining no less than forty-five points, thus securing the cup. The next two in order of merit were Mr. Folke with thirty-four points and Mr. Lye thirty points, each of whom received medals.

MISCELLANEOUS.

By far the most imposing and handsomest trade display ever brought together was made by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E. This exhibit contained two large groups of Chrysanthemums with a large table between them, on which were Oriental vases filled with blossoms of new and choice sorts, and with which were associated fine-foliaged plants, including Crotons and other equally effective material. The front of the table contained some dozens of new sorts recently acquired, and included Japanese Dr. Hope, Mrs. W. Mease, Rayonnante, Mrs. Seward, Frank Seward, and Fred Joy. A few new incurved, including Hanwell Glory and Mrs. H. J. Jones, which variety should soon be as popular as Duchess of Fife, were among the promising novelties (large gold medal). Messrs. H. Cannell and Sons, Swanley, also had an immense table of cut Chrysanthemums and some seventy bunches of zonal Pelargoniums. At either end of the table a pretty group of bright-coloured Cannas gave a beautiful finish to their display (large gold medal). Mr. W. J. Godfrey, Exmouth, arranged an exhibit of great merit on a table crossing the building, the centre of the long table being admirably set off with vases containing a number of beautiful blossoms. Individual exhibition blooms were also freely staged, and included such sorts as Autumn Glory, a very pleasing tint of colour; Mrs. F. A. Bevan, Mrs. Mease, Ella Curtis, Le Grand Dragon, Wilfred Godfrey, President Nonin, and Capt. Bellamy (silver-gilt medal). A like award went to Messrs. J. Laing and Sons, Forest Hill, S.E., for a useful collection of coniferous plants, pleasingly grouped. A small gold medal was well merited for the handsome display made by Messrs. W. Cutbush and Son, Highgate and Barnet. At the rear were grouped Chrysanthemums in variety, while in front freely-flowered Malmaison and other Carnations were staged. As a finish, a neat edging of Roman Hyacinths embedded in Moss was particularly pretty. From Messrs. B. S. Williams and Son, Upper Holloway, a table of lovely plants secured a small gold medal. Orchids, Heaths, winter-flowering Begonias, and fine-foliaged plants, each in charming variety, formed a welcome feature in the display. Silver medals were awarded to Messrs. T. S. Ware, Limited, Tottenham, for a table of new Chrysanthemums; to Mr. John Russell, Richmond, for a splendid group of Ivies in many diverse forms and varieties; to Messrs. Peed and Sons, Roupell Park

Nurseries, Norwood, for a nice group of freely flowered Chrysanthemums; and to Mr. Robt. Owen, Maidenhead, a silver-gilt medal for a table of splendid exhibition Chrysanthemums of high quality, among which were conspicuous Sir Herbert Kitchener, Mary Molyneux, and Lord Cromer, a grand crimson Japanese. A table of rustic table decorations from Mr. J. Williams, Ealing, was admired.

Horticultural requisites were exhibited freely and in great variety. The Icthemus Guano Company, Lawe's Chemical Manure Company, the Agricultural and Horticultural Association, Limited, and the Permanent Nitrate Company each had a worthy representation of their wares. A number of boilers, &c., came from Messrs. C. P. Kinnell and Co., Southwark Street, and Mr. Pinches, Camberwell, showed his patent labels.

On Monday last the floral committee of this society held a very interesting meeting at the Royal Aquarium, Mr. Thomas Bevan being in the chair. There was a good attendance both of members and visitors, and the exhibits were numerous and of a high standard of excellence. The principal exhibits were staged by Messrs. H. Cannell and Sons, Mr. H. J. Jones, Mr. W. Wells, Mr. R. Owen, Mr. H. Weeks and several others. It was a noticeable feature that some of the finest specimens of incurved that have been seen anywhere this season were novelties presented at this meeting. However, nothing short of the highest quality attainable seemed to meet with the approval of the committee, and the following first-class certificates were awarded:—

CHRYSANTHEMUM MRS. W. HOWE.—A big, deeply-built incurved of the old type, with stiff, grooved, regularly arranged florets; colour, a pure deep golden yellow or chrome. Shown by Mr. W. Howe.

CHRYSANTHEMUM H. J. JONES.—This is probably one of the most brilliant Japanese ever raised. It has long loose florets of medium width. The colour is without equal, being of a dazzling velvety crimson, reverse and centre bright gold. From Mr. W. Seward.

CHRYSANTHEMUM HANWELL GLORY (incurved).—A massive-looking flower of the most perfect build. It has a multitude of narrow grooved florets, forming a deep, compact flower of great merit; colour, a deep rich shade of golden bronze. From Mr. Seward.

CHRYSANTHEMUM C. S. BORTES.—A very full, double flower of the incurved section, large and very regular in form; colour pure golden yellow. From Mr. R. Owen.

CHRYSANTHEMUM LE CHALONAI.—A very nice form of Japanese Anemone. It has a fine disc and flat, neatly arranged guard florets; the colour is golden yellow, shaded cinnamon. Exhibited by Mr. H. J. Jones.

CHRYSANTHEMUM JOHN POCKETT.—A noble Japanese incurved of remarkable size, with big, broad incurving florets lined with reddish crimson, the reverse deep golden bronze. This came from Mr. W. Wells.

CHRYSANTHEMUM MME. GABRIELLE DEBRIE.—A large Japanese incurved with broad grooved florets, very deep and globular in build; colour pale pink. From Messrs. H. Cannell and Sons.

CHRYSANTHEMUM MADELEINE DAVIS.—A very fine form of true Japanese, with long, twisted, intermingling florets most effectively arranged. The blooms are very large; colour pale lilac-mauve, rather pinkish towards the centre. From Mr. W. H. Lees.

CHRYSANTHEMUM MISS ANNIE HILLS.—One of the big, broad-petalled incurved varieties, very deep in build and large in size, a close, compact, massive flower; colour white, slightly tinted flesh or blush. From Mr. H. Weeks.

Also very noteworthy were Mrs. Grogan, a charming bright pink Japanese, of which the committee wished to see a plant, it being shown as a decorative variety. Jalene, a noble pink incurved, and Pearl Palace, a pale flesh-coloured incurved, were also asked for again. Mrs.

W. C. Egan is another fine incurved bright rosy pink. Owens' Memorial, a rich crimson and bronze, and Mr. T. Carrington, purple, both Japanese, were also asked to be submitted again. The committee awarded a commendation to Mrs. Alfred Kimber, a yellow sport from Mrs. Dr. Ward. Mr. Witty, of Nunhead, sent some very curious and fantastic novelties which were quite out of the ordinary, one being like a small bunch of silken twisted thread, and another a peculiar long, drooping, spidery-looking flower, which were stated to be novelties from Japan. Mrs. P. R. Dunn, a large white Anemone Japanese; Yellow Eva Knowles, a golden-buff sport from Mary Molyneux, and a pretty pale yellow sport from Source d'Or were also promising.

Royal Horticultural Society.—The £10 10s. Sherwood cup will in 1899 be given for vegetables shown by amateurs or gentlemen's gardeners on June 13 and December 26. The points obtained by each exhibitor on each day will be added together for the result. June 27 will be the Rose Show at the Drill Hall. On July 11 there will be an international conference held at Chiswick on "Hybridisation and Cross-breeding in Plants," together with an exhibition of hybrid and cross-bred plants with their parents (when possible) for comparison. The next fruit and floral meeting will be held on Tuesday, November 22, in the Drill Hall, James Street, Westminster, from 1 to 4 p.m. A lecture on "Artificial Garden Manures" will be given by Mr. A. D. Hall at 3 o'clock.

The weather in West Herts.—Throughout the past week the temperatures have again been high, making this the fourth unseasonably warm week we have now had in succession. During these four weeks there has not occurred a single unseasonably cold day and only three cold nights. On the 16th inst. the temperature in shade rose to 61°, which is a very high reading for November. At 2 feet deep the ground is now about 4°, and at 1 foot deep as much as 6°, warmer than is seasonable. Since the present month began, less than half an inch of rain has fallen. The winds have again been light and the air rather damp even for November. On one day the sun shone brightly for nearly 5½ hours, but on four others no sunshine at all was recorded.—E. M., *Berkhamsted*.

Lobelia fulgens.—Have any of your readers now in cultivation the original wild plant, the parent of the splendid varieties known in our gardens as Queen Victoria, Firefly, and others? If any reader will kindly tell me I shall be greatly obliged.—S. L.

Endurance of Bamboo stakes out-of-doors.—An inquiry is made in your number of November 5 on this subject. I recollect a fence of Bamboo of some length and height in Putney Park Lane, which must have been put up more than thirty years since, and the last time I saw it it was in good order.—R. D. C.

Hemerocallis aurantiaca major.—Some three years ago I purchased some plants of the much-advertised *Hemerocallis aurantiaca major* and planted them, some in the sun and some in the shade. In October of this year I have seen the first flower. Two years ago I also purchased *Watsonia iridifolia* O'Brien, but neither in the house nor in the open ground have I succeeded in getting a flower, though I must admit the bulbs increase and multiply. What I should like to know is, whether these failures are due to my own bad treatment or to some inherent vice in the plants.—H. S.

BOOK RECEIVED.

"Fruit Culture for Amateurs." Second edition. By S. T. Wright, Royal Horticultural Society's Gardens, Chiswick. With an appendix by W. D. Drury, F.R.H.S. London: Upcott Gill, 170, Strand, W.C.

Names of plants.—H. S.—*Tradescantia virginica*.—*Springhill*.—1, *Oncidium flexuosum*; 2, *O. tigrinum*; 3, *O. crispum*.—G. C.—1, *Andromeda floribunda*; 2, Scotch Fir, this varying from seed.

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ORCHIDS.

PHALÆOPSIS ESMERALDA.

PERHAPS no other species of Moth Orchid is so variable in the size, and especially the colour, of its blossoms as is this pretty plant. Some of the varieties are nearly always in bloom from late summer until spring, and I have noted several fine varieties quite recently flowering freely. The plants are fairly robust in habit, having leaves each about 8 inches long, and producing fine erect, many-flowered spikes. That usually looked upon as the type has rosy lilac flowers, with deeper tints about the lip, the individual blooms about 1½ inches across. Plenty of warmth as long as growth is going on and a brisk moist temperature are essential to success. I am of opinion that nearly all Phalæopsis do best suspended from the roof. Whether it is that the air is more active about the roots, or that the atmosphere is more congenial to them, I cannot say, but I have repeatedly found the best growth in suspended baskets or pots. In one collection I saw recently—where a few years ago the plants were grown on the stage not far from the glass—the improvement has been marvellous. Plants that at one time pushed small, weakly leaves are now in the most robust health, with immense leaves of firm substance, and all owing to being brought up from the stage and suspended. I am not saying, of course, that hanging plants up in baskets is going to prove a panacea for all the ills that Moth Orchids are heir to; far from it. There are scores of unhealthy plants suspended, just as there are hundreds of healthy ones grown on stages, but all conditions being equal, the plants brought up have the better chance. Important as this is for the stronger-growing members of the genus, as *P. amabilis* and *P. Schilleriana*, it is doubly so for this kind, which in its habitat is, we are told, found growing on rocks in exposed positions, where it loses its leaves in autumn and “all surrounding vegetation gets parched and dried.”

We do not copy this under cultivation for obvious reasons that have been pointed out more than once in these pages, but it is equally plain that no good can come of overshadowing such plants, while to keep them a long way from the glass during our dull, cold winters is wrong altogether. The treatment of the roots does not differ materially from that given to other known kinds. A large body of close or heavy material must be avoided, and anything in the least inclined to be sour must be removed at the time of rebasketing. Clean Sphagnum Moss and charcoal alone will grow it well, this being placed above efficient drainage. I still hold a brief for pottery ware for Phalæopsis of this class, as I believe the plants move better out of pans than cylinder-shaped baskets. The long roots are all very well as long as they are undisturbed, but when the cylinder decays and a new one is required, transplanting is not always successful. *P. Esmeralda* is a native of the islands about the Gulf of Siam, and was introduced by M. Godefroy about 1874. H.

Oncidium Jonesianum.—This pretty species I have noted flowering in several collections recently, and there are now many forms much finer than the original type. The plant flowers freely when healthy and strong. Its chief requirements are a sunny position in a warm moist house, not very large pots if so grown, and a thin, well-aerated compost. I have seen fine plants grown on lightly-dressed blocks or Tree Fern stems, but possibly the growth may be stronger in pots or baskets.—H.

Dendrobium heterocarpum.—I have noted this pretty and fragrant species in flower in several collections recently. Most of the deciduous Dendrobies are rather forward this season, the very bright and hot weather during the late summer months doubtless having something to do with this. *D. heterocarpum* is usually the first to flower and one of the easiest to grow; the blossoms occur very freely at the upper node, and are pale yellowish with a maroon-purple disc to the lip. Plenty of warmth while growing,

smallish receptacles, and a distinct resting season are its chief cultural requirements.—H. R.

Cattleya labiata R. I. Measures.—This lovely albino form is again in bloom at Cambridge Lodge, and it is certainly one of the most distinct Cattleyas that has ever flowered under cultivation. Unlike the majority of albinos, this variety has a little veining left on the lip, but it is totally distinct in colour, being, in fact, a rosy pink, quite different from the purple tinges usually seen in Cattleyas. The sepals, petals, and the ground of the lip are of the purest white, making up a chaste and beautiful flower. The habit of the plant seems exceptionally good, this being contrary to that of many of the white varieties.

Celogyne lentiginosa.—Though the blossoms of this species are a little dingy in colour, they show up well upon the bright green foliage and bulbs, and for this reason a few plants should be included in representative collections. The racemes are few-flowered, the sepals whitish and brown, the lip with a deep brown central ridge. In a moist, warm house and a rough, open description of compost growth is very free and vigorous. Small pieces may be suspended in baskets, but larger specimens do best in pans upon the stage. During the growing season few plants require more water, and at rest the pseudo-bulbs must not be allowed to shrivel.

Restrepia guttata.—A correspondent has kindly sent me flowers of this rare and beautiful Restrepia, also the nearly allied *R. Lansbergi*. Both are lovely little Orchids, well worth attention from anyone who likes this section. The colours on the lip and lower sepals of *R. guttata* are very bright and effective, being rich purple and crimson in varying shades on a white ground. The upper sepal and petals are small and thread-like as in *R. autenifera*, from which it is distinguished not only by the colour of the blossoms, but by its stronger habit and thicker and rounder foliage. *R. Lansbergi* has very much deeper coloured flowers, the base of each sepal being a lovely dark crimson lake which tones down to rose in front, the broad part of the sepals having many dark purple spots—altogether a beautiful little blossom. Restrepias like a cool, moist house, plenty of air, and somewhat close shading in summer. In winter allow them all the light

possible, and a good minimum night temperature will be 50°. In all details of potting and watering the treatment is much the same as for *Masdevallias*.

Vanda suavis (Veitch's variety).—Among a large number of plants of this species and *V. tricolor* I lately saw, this beautiful variety was conspicuous. A fine plant was carrying two very large spikes with fourteen flowers each. Compared with the type, the flowers are very large and highly coloured, but possibly this is in part owing to the robust health of the plant. All the plants have the same vigour and the roots are pushing in all directions. It is a sure sign of well-being when the roots of these *Vandas* push well away from the centre of growth. Another fine *Vanda* I noted was *V. Parishii*, a plant that many cultivators find a difficulty in keeping healthy. The leaves are immense, one fine specimen in a large basket having seven leads, while those with single stems are finely developed. Almost every growth has a spike forming.—C. H.

Cattleya superba splendens.—Highly coloured forms of this well-known species have been rather freely imported of late, collectors having apparently got into a good locality, and varieties labelled *splendens* are frequently met with. Some are deserving the varietal name on account of their fine colour, but others are very little removed from the type. By far the most highly coloured form I have seen is now flowering in Mr. R. I. Measures' collection at Cambridge Lodge, both the enfolding and the front lobes of the lip being of the most intense and richest crimson-purple imaginable. The blossoms are not large, but as it is a recently imported plant they may improve. Improvement in colour seems impossible. Few *Cattleyas* display their colour better than *C. superba*, the segments opening well back and showing the lip to great advantage. It is usually found to thrive best under cultivation in a strong moist heat with plenty of sunlight.

GALEANDRA BATEMANI.

GALEANDRAS are not so much grown as formerly, as many more easily cultivated and showier Orchids have been introduced during the last two or three decades. All the same they are pretty and interesting plants, and well worth a place in representative collections. The present species used to be freely grown, and is dwarfier than most other species. The stems only grow about 6 inches high, but they are surmounted by long, narrow green leaves, from between the tops of which the flower-spikes issue. The individual blossoms are of medium size, the sepals and petals of varying tints from deep brown to creamy yellow, the lip whitish or yellow, with a purple blotch in front. The culture of this species is often a failure, and it must be conceded that the plants are occasionally difficult to manage. Still, if care is taken with them and a few details carried out, they may be satisfactory for a few years after importation at least. Its native habitat is in Southern Mexico, where it is always found in sheltered, moist positions, not at a great elevation, as many Mexican Orchids are. Consequently under cultivation plenty of warmth is necessary, and this must be tempered by a very free distribution of water to thoroughly moisten the atmosphere. By these means, thrips—one of the worst insect enemies to this species—is kept in check, but it is the exception to see plants entirely free from this pest, which soon ruins their appearance and health. Whenever any of these are seen, or any of the brown marks on the foliage that show their presence, the house wherein they are grown should be fumigated if convenient. If not, a fairly strong decoction of soft soap and tobacco should be mixed up, and the heads of

the plants dipped in this. Sponge them carefully afterwards with clear tepid water, and syringe lightly overhead for a few days. In all probability cleaning operations will have to be repeated several times before the plants are rid of the insects, but it is useless looking for healthy growth as long as they are present. Respecting the roots, these like a fairly substantial compost, but not too large pots. Equal parts of loam fibre, peat, and Moss will suit them well, and at all times when the growth is active they must be freely watered, never, in fact, being allowed to get dry for any length of time. During the resting season, on the other hand, very little suffices, but it is a mistake to keep the plants too cool. The lighter and warmer the position in autumn, the better the growth will harden and the stronger the young leads will come away in spring. *G. Batemani* was first introduced by Mr. Barker, of Birmingham, and is named after Mr. James Bateman.

Masdevallia Gairiana.—This hybrid *Masdevallia* was raised by Mr. Seden in Messrs. Veitch's nursery, its parents being *M. Davisii* and *M. Veitchiana*. In shape it is almost intermediate between its parents, the upper sepal being bright chrome-yellow, the base thickly covered with violet-crimson papillae, the long slender tail golden yellow. The lower sepals are rather deeper in colour, the violet-crimson occurring rather more freely. It was recently flowering at Cambridge Lodge, as also was *M. Measuresiana*, a pretty cross between *M. tovarensis* and *M. amabilis*. The flowers are whitish, with lines of red. The habit is most like that of *M. tovarensis*. Quite a different plant is the beautiful *M. glaphyrantha*, a hybrid between *M. infracta* and *M. Barlaana*, the blade of the flower violet-crimson, with lines of a deeper hue, the orange-yellow tail being more elongated than usual. All these hybrid *Masdevallias* are beautiful plants, of exceptional interest, and they are mostly of robust constitution and free-flowering, while most of them may be grown in one house. The requirements of the parent species as to the size of the receptacle and the compost necessary may be usually taken as suitable, while the house should be cool and very moist in summer, the glass being kept clean to admit all the light possible during the dull days.

Oncidium varicosum.—One of the most popular of Orchids, this *Oncidium* is still not so well grown as it might be, and too often the life of plants under cultivation is very short. As long as supplies are being imported, Orchid growers do not seem to trouble much about keeping the plants in health, but depend on newly-imported specimens. This is wrong from every point of view, for plentiful as any plant may be in its habitat, it becomes a question of time only for its destruction when every year sees many specimens collected and wantonly ill-used. Here, as in many other cases, overflowering is at the root of the matter, but besides this many will not take the trouble to keep the plants in health by timely and proper additions to the compost in the way of surface dressing, but let them go on getting into worse condition until a renewal of the compost becomes necessary. Then the plants in many cases are too weak to stand the disturbance. Better by far keep them healthy by anticipating their needs and attending to small cultural details as these become necessary. A native of various parts of Brazil, *O. varicosum* does well in the *Cattleya* house, where it should if possible be suspended in baskets close to the light and exposed to all the best of the air currents. Though long known, this *Oncidium* was not introduced to this country until 1848, and it flowered at Chiswick a short time afterwards.

Dendrobium Parishii.—At p. 346 "J. C. N." gives his experience with this *Dendrobium*, which is very similar to what others have found with this and nearly related kinds, such as the rather

uncommon *D. rhodopterygium*. The appearance of newly-imported plants of these two kinds gives one a fair idea of what they require, the hard, scaly pseudo-bulbs of each being evidently of quite a different texture from that of those of kinds like *D. nobile*. It is just this observation of the requirements of different species and meeting them by varying treatment that make all the difference between success and failure. *Dendrobiums* cannot be collectively treated any more than any other genus of Orchids, though many of the more popular species need almost identical treatment. The thorough ripening spoken of by "J. C. N." is advisable for all the deciduous long-stemmed kinds, though doubtless many of them flower moderately without it. The mistake that many growers make is in ripening, or trying to ripen, the stems before they are really finished. This leads to few flowers being produced owing to shrivelling of the stems during the process, and as a rule many of the blooms on such plants are small and abortive. Another point worth noting is that plants well finished and thoroughly ripened will stand being kept much drier in spring than badly-ripened ones, this being a time when the least over-watering is very dangerous.—H. R.

ORCHIDS IN BLOOM AT WEYBRIDGE.

CATTLEYAS are very well done at Heath Grange, the residence of Mr. W. A. Bilney. They are grown in a lean-to house facing south, where they enjoy a maximum of light with free ventilation, and they have that clean, healthy, robust appearance which characterises this genus when in the enjoyment of favourable conditions. That fine winter-blooming species, *Cattleya labiata*, is giving a nice display, the plants being so well set with bloom that they will produce flowers in succession up to January. An Orchid that with careful culture commences to flower at the close of October and remains effective for a couple of months is very valuable and should be included in the list of really useful winter-blooming plants. Its near relatives, *C. superba* and *aurea*, are well in evidence, the latter, by reason of its distinct colour, forming a complete contrast to other members of the family. One of the most delightful Orchids that expand their blooms at this time of year is *Lælia pumila*. It is, I believe, somewhat scarce and not so easy to manage as its stronger-habited relatives. It is grown at Heath Grange in a shallow pan slung near the roof, a position which seems to suit it, for one plant carries six blooms of good quality. It is a charming little species, making a display quite out of proportion to the dimensions of the plant, and should find favour with those who with but limited accommodation desire as much variety as possible. The same may be said of *Angraecum Leonis*, a miniature species, bearing flowers exquisitely pure and beautifully formed, and which afford a fine contrast to the rich colours of such things as *Dendrobium chrysanthum* and *Vanda Sanderiana*. The latter with its imposing habit of growth and handsome, richly-coloured flowers which it would puzzle a colour expert to describe is indispensable in all places where Orchids are grown to any extent. I do not know of any flower opening at this season which resembles that of this *Vanda*. No collection of Orchids would seem to be complete without the showy *Dendrobium formosum giganteum*, and I was pleased to see some good forms of *Lycaste Skinneri*, the flowers of which last so long in good condition. I remember when it first came to the knowledge of Orchid growers that this *Lycaste* could be maintained in a healthy condition in a temperature but little higher than usually given to greenhouse plants. This was in the very beginning of cool Orchid culture, and it has been proved that the plants will bloom under such treatment. I feel convinced, however, that it is happier in a higher temperature, the plants making stronger growth and the flowers opening more widely and being better in colour. In a very low temperature I have remarked that the

flowers have a somewhat contracted appearance and are rather dingy in colour. One of the most useful winter-blooming Orchids is *Dendrobium Dearei*, which produces its chaste flowers during one-fourth of the year, the pure white, green centred flowers being very attractive, as are also those of its near relative, *D. glomeratum*, the scarlet centre to the mauve-coloured blooms being a remarkable feature of this species. The quaint-looking *Oncidium Jonesianum* is so distinct as to be worthy of a place in any collection, and the same may be said of *Dendrobium Phalenopsis Schroederianum*, which exhibits considerable variation as regards the colour of its flowers.

J. C. B.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS AT WOKING.

IN the Claremont Nursery, Woking, Mr. H. Shoesmith grows a representative collection, besides some plants in the open of varieties particularly suitable for outdoor cultivation. Most, if not all these seem to have been selected principally on account of their free-flowering qualities, and many of them are singularly effective and useful for the purpose. Persons who cannot for various reasons grow large exhibition blooms can easily grow such as Harvest Home, deep crimson and gold; *Roi des Précoces*, bright crimson-scarlet; *Mme. Eulalie Morel*, golden salmon; *George Menier*, rosy amaranth; *Ivy Stark*, very pretty, a golden bronze; *M. Dupuis*, another pretty flat-petalled golden bronze; *Albert Galy*, bright reddish crimson, centre gold; and *Ambroise Thomas*, crimson.

In the general collection of exhibition varieties Mr. Shoesmith has most of the best of the well-known standard sorts. Fine are the examples of *Mrs. C. Harman-Payne*, very large and bright in colour, and its two sports, *M. Louis Rémy* and *Mrs. G. W. Palmer*. *Mme. Rozain* is a grand incurved pink Japanese, not a modern one, but still of some value. There are also good blooms of *Viviani Morel*, *Etoile de Lyon*, *Phœbus*, and others from various continental raisers. *Modesto*, a big, rich golden yellow Japanese of American origin, is very fine; so, too, is *Lady Isabel*, a fine pale silvery pink. *Joseph Chamberlain*, rich crimson and gold, and the well-known *Edwin Molyneux* are also conspicuous for colour. *M. Ernest Calvat's* seedlings, both of this and the past season, are strongly represented. One of the best is *Mme. Robert de Massy*, a Japanese, with a fine velvety purple-amaranth shade and a silvery reverse. *N.C.S. Jubilee*, Japanese incurved, pretty silvery pink; *Secrétaire Rivoire*, a Japanese, with long drooping florets, colour pale canary-yellow, shaded bronze, and *Mme. Bertet*, pure white, tinted flesh colour, are all fairly good. Among others from the same source of special merit may be mentioned such varieties as *Dr. Liebert*, globular and deep, colour bright rosy mauve, with silvery reverse; *Australian Gold*, *Mme. Carnot*, the curious green *Mme. Ed. Roger*, *Le Grand Dragon*, a fine new golden yellow of this season; *Mme. Couvat de Terrail*, a big spreading Japanese, of a pale pink, passing to white; *Mme. Madeleine Expulsion*, a new white; *Melusine*, *Tatiana*, *Antoinette*, white; *Sita*, white, streaked purple; *M. Chenon de Léché*, *Werther* and one or two more. *Purple Emperor* is a beautiful bright plum-coloured velvety amaranth, with a silvery reverse, raised in Australia, and *John Pockett*, a good sized Japanese incurved, with long pointed florets, reverse golden bronze, is from the same part of the world. The massive *Australie*, *Océana* and *Pride of Madford*, all well known to growers, are certainly of considerable merit. The section does not, however, end with these, for we noticed a very pretty bright crimson sport from *Pride of Madford* called *Mabel Kerslake*; *Mrs. Ernest Carter*, big and fine, with long drooping florets, colour clear deep primrose; *Mr. T. Carrington*, deep rosy amaranth, and *The Convention*, golden bronze. For simple beauty of colour, *Miss Mary Underhay*, pale soft yellow; *Miss*

Nellie Pockett, large white; *Master H. Tucker*, deep crimson and gold; and *Chatsworth*, a large pale pink, are all varieties from the same colony, and certainly do credit to the Antipodean raisers, who have really produced a collection of exceptional merit.

Most of the recent sports from first-class varieties of acknowledged merit are represented by excellent blooms of *Lady Hanham*, *Charles Davis*, *G. J. Warren*, and the paler, but nevertheless beautiful, variety, *Mrs. W. Mease*. *Mr. Hugh Crawford* is a very striking, deeply-built flower of canary yellow, and *Mrs. G. Carpenter*, bright rosy mauve, is another. The mere mention of *Ella Curtis*, *Edith Tabor*, *Lady Ridgway*, *Robt. Powell*, *Simplicity*, and *Col. W. B. Smith* will be sufficient to show the extent of the *Claremont* collection.

While giving due prominence to the popular Japanese section, *Mr. Shoesmith* in no way neglects the older and more formal type, the incurved. He has always been an admirer and a grower of these, and among the most forward at the time of our visit, mention should be made of some very excellent blooms of *C. H. Curtis*, deep in build and rich yellow in colour, *Lord Alcester*, *Princess of Wales*, very delicate pale blush rose, *Lucy Kendall*, bright coral-red, *Mrs. Coleman*, *Miss Dorothy Forster*, *Miss Violet Tomlin*, *Mrs. Heale* and *Miss M. A. Haggas*.

NOTES AND QUESTIONS.

Chrysanthemum Mytchett Beauty.—This is a pretty yellow kind, and one of the decorative sorts that has been rather prominent of late. The tone of yellow is not, however, very rich, but in the open garden at least it would prove very pleasing.

Chrysanthemum Rose Perfection.—There are few small-flowered single Chrysanthemums to equal this charming variety. A single row of clear rose-pink florets and a neatly defined disc give the blossoms, which are produced in perfect-shaped sprays, a most pleasing appearance. One spray placed in a small glass produces a fine effect, while the plant as a whole forms a freely-flowered specimen attaining a height of something over 4 feet.—C. A. H.

Chrysanthemum Clinton Chalfont.—This Japanese variety is just now in magnificent form and shows well the lateness of the present Chrysanthemum season. Growers almost without exception classify this sort as an October-flowering kind, and this has in other years been the case. There is a particular richness in the blossoms of this variety, which are of a bright glossy yellow, with a richer yellow centre. The plant is from 4 feet to 5 feet high.—D. B. C.

Chrysanthemum J. R. Upton.—This, which is of Tasmanian origin, is a large, massive Japanese flower with very long, broad, and pointed florets which twist in a pretty manner. The colour is a deep rich yellow not unlike the shade seen in *Modesto*, with a paler reverse. The plant has a nice sturdy habit of growth and is between 4 feet and 5 feet high. Late-struck cuttings are now developing marvellous flowers which seem to rival the yellow forms of *Mme. Carnot*.—C.

Chrysanthemum Madeleine Davis.—Of the many excellent novelties of this season, this is, perhaps, one of the most refined and pleasing. It is a *Framfield* seedling of last year, when it was thought to be particularly promising. The colour may be described as silvery white, tinged throughout with rosy violet, and on late flowers this latter colour is even more pronounced. The form is Japanese reflexed, with petals of good length, prettily twisted, and building up a flower of great depth and solidity. The National Chrysanthemum Society's floral committee awarded the variety a first-class certificate recently.—D. B. C.

Chrysanthemum Lord Cromer.—I was much pleased to read your highly commendatory remarks concerning this beautiful variety. I saw it at the Drill Hall, where the floral committee properly recognised its very pleasing form and exceedingly rich crimson colour, a hue so badly needed. Size in show flowers is responsible for the fact that collections of twenty-four, thirty-six, or forty-eight distinct varieties have 50 per cent. of them white or yellow, and the other moiety is nearly all pale hues, hardly a good rich colour being in evi-

dence. Take away the good old *E. Molyneux*, the newer *Pride of Madford*, and the still newer *Mr. T. Carrington*, and what of colour in a collection is left?—A. D.

ROSE GARDEN.

ROSE CRIMSON RAMBLER.

SHOULD this variety be pruned? The name certainly suggests not, and many Rose growers would ridicule the idea, and probably be dismayed by anyone suggesting it. Yet under certain conditions it is really necessary to obtain the best results. Being recommended as a climbing variety, it has been planted extensively in various positions, against walls and buildings, as a pillar Rose, and also for covering unsightly outhouses, &c. In most cases the space is limited, especially on dwelling houses and ornamental iron and wire-work, therefore the plants should be so managed that they cover the position evenly from base to summit, not only with healthy foliage, but flowers also. This desirable end, however, is seldom attained when growth is not properly regulated and young wood induced to grow up each year from the base. In the ordinary way the leading shoots soon reach the extremities of the allotted space and have to be cut back. The fact of doing so causes others to form a little lower down, and these in turn have to be treated in the same way.

By repeating this operation several years growth becomes strongest where the knife is most freely used, viz., the top of the plant, leaving most of the lower part quite bare of foliage and exposing unsightly stems that support the unwieldy tops. These naturally become a mass by constant cutting back, but their own weight often causes them to topple over, they are twisted about by every wind, and not unfrequently torn away from their support by gales or weight of snow.

How often is this the case with pillar Roses, and how little flower such plants produce to what they can be made to do by the proper use of the knife. To properly furnish a given space with young wood and as much as possible with bloom also it is necessary to cut a certain number of shoots down to the ground-line each year, or the evil complained of above is sure to follow. The idea that the climbing and Tea sections of Roses need little or no pruning has led many, especially amateurs, to allow their plants to grow at will, and where trained to the walls of a residence they become in a few years unsightly objects and almost a nuisance, the flowers being few and far between.

Although my remarks were intended to refer to *Crimson Rambler* chiefly, they are applicable to all sections of climbing Roses and other such plants generally. Two instances came under my notice during the past summer where *Crimson Rambler* was made to form most pleasing features and also to serve a good purpose. In one case it was planted against a continuous wire trellis about 7 feet in height which formed a background to a herbaceous border, and a division between this and the vegetable quarters. To maintain an even surface of foliage and flowers it is found necessary to cut back many of the shoots to the ground-line as they pass out of flower, and the practice answers admirably. Indeed, one could almost compare it to the treatment *Raspberry canes* receive, as the base of each plant forms a stool of crowns upon which sucker growth is continually being made, furnishing plenty of new growth for training to the wire screen. This young wood produces larger sprays of flower of richer colour than is usually obtained from that much older. The other case was as successful, though planted in another way and to serve a different purpose. In forming a pathway from the front to the rear of a new building down a rather steep declivity several feet of soil had to be removed, which was banked up on either side and formed slopes. This was afterwards covered with large stones and a few plants of *Crimson Rambler* were planted. Having a deep rich root-run, the plants made enormous growth, many of the shoots measuring upwards of 12 feet. The sprays of

bloom produced on these were correspondingly large and greatly admired. The shoots were pegged loosely to the embankment and, of course, trained lengthways. Here again it is found necessary to cut back the growth as it passes out of flower to promote new and provide room to arrange it, by which means the whole of the surface is covered with bloom in the season, which would not be the case were the plants managed differently. These are instances, I think, which prove the advantages of pruning such varieties, provided the work is carried out carefully and performed at the right time.

RICHARD PARKER.

Rose Celine Forestier.—At page 351, "P." speaks in praise of this delicate primrose-coloured Rose. It is often seen in poor condition, owing either to the roots being in an unsuitable border, or to a too close system of pruning. It is never more at home than when it can ramble unrestricted over a large area, the lateral growths merely being thinned out and shortened a little. An open light loam and a sheltered position suit it best, it being rather tender. Given the above advantages, few Roses can equal it for producing masses of bloom. Some time ago I saw a grand specimen of Celine Forestier occupying a sheltered position on the south side of a gentleman's residence in South Notts. It had grown to a great height and was profusely flowered, its chief inducements to do so well apparently being a light open border and great leniency in the use of the pruning knife.—C.

Tea Roses on own roots.—I would be very much obliged if you would kindly give in THE GARDEN a list of Tea, Hybrid Tea and Noisette Roses which do well on their own roots, or a list of such which are known not to succeed on their own roots.—R. F. J.

* * The second part of your question is not so easy to answer, owing to the rule throughout the trade everywhere of grafting everything on the Brier or some other coarse stock, which gives rank growth at first that is not always an assurance that the plants will remain with us in the same state. We can only tell you from our experience of certain very beautiful Tea Roses which struck from cuttings in the open ground in September grow perfectly on their own roots. These are Mme. Hoste, Rubens, Mme. Lambard, Jules Finger, Gloire Lyonnaise, Bouquet d'Or and Princesse de Sagan. We have no doubt many other kinds will also be found to do, but these we have seen do. The finest Monthlies, which are very nearly allied to the Teas, always do better on their own roots, as, for instance, Laurette Messimy. It is at present rather difficult, however, to get healthy plants of own-root Roses from the trade, and the best way for you is to get cuttings put in yourself every autumn, and so gradually acquire a stock of strong plants, taking the sorts of Tea Rose and Monthlies which open best in our country.—Ed.

KITCHEN GARDEN.

ONIONS.

On page 414 "A. D." remarks: "In judging Onions as now presented for show in competition, too much stress is laid on mere size or weight, and not enough on form, solidity, brightness, and clearness of skin." Having always looked upon shows as a means of fostering the production of the heaviest crop of the most valuable produce, I cannot altogether agree with "A. D." Our aim in Onion culture should always be to secure the kind of crop which will command the highest price in the market rather than set up some fanciful standard of our own to gratify the eye at the expense of the pocket. For large Onions I have always been able to command a ready sale at fairly good prices; but for small ones, even

although firm, bright, and clean, few purchasers were to be found. The large ones, if well ripened and stored in a cool, dry place, kept sound and firm into the months of March and April of the following year. In fact, an enthusiastic exhibitor once showed me some splendid bulbs in the middle of the latter month which were as firm and fresh-looking as if they had just been got ready for their first appearance on an autumn exhibition table, but which, in reality, had done service on several occasions and borne off a few prizes. Therefore "A. D.'s" sweeping condemnation in the article referred to, that bulbs "that have won prizes are rarely sound at Christmas," is out of harmony with facts. He also says, "We refuse to grant prizes to other vegetables, whether Potatoes, Tomatoes, Cucumbers, or tap-rooted kinds, simply because large." I think I am quite within general practice when I say neither are prizes awarded to Onions because of bulk or weight. What we want in Potatoes, Tomatoes, Cucumbers, tap-rooted vegetables, and Onions is size and quality (and in some instances colour) combined. Not the things which will simply yield pleasure to the eye, but those which will also augment the purse, are the things to encourage. My grievance against the standard of merit "A. D." would have set up is chiefly a financial one. In these days of low prices even for the best things, we want the greatest weight of the best marketable produce from our land, to hold our own against foreigners, and Onions are no exception. For several weeks Spaniards, with sticks loaded with strings of Onions, are met both in town and country, and the low prices at which they offer them, bid well to entirely stamp out Onion cultivation in this country. It is only possible, therefore, to survive the struggle of the fittest by producing that which will command a more ready sale than those small Spanish productions, and getting greater weight from the land than we have been doing. This can only be attained by more highly cultivating the land and securing large Onions, entailing less labour in harvesting and cleaning—weight for weight compared with small ones—and gratifying the general public demand and taste in the matter of size. By encouraging this course, in awarding prizes to the largest, best-formed, and soundest Onions, we are directing growers into the channel which is likely to aid them in holding their own against foreign competition and continuing a national industry.

ONION.

Lifting Seakale.—A fortnight ago the most matured crowns were lifted for early forcing, and when the character of the season is taken into consideration they are, I think, in a very satisfactory condition. They have been lying on the surface of the ground since being lifted with the view of giving them a rest, and will now shortly be collected and buried in soil in a convenient place, to be taken out as wanted for forcing. The main lot will be lifted in the course of a few days, and will also be buried in the same way. As these crowns will not be wanted for some time, it is unnecessary to allow them to lie on the surface, as they will force readily enough when the time comes to place them in gentle warmth.—A. W.

Autumn-sown Onions.—Complaints as to the difficulty of getting seed sown as usual in August to germinate have been general, the great drought having been inimical to growth. In many gardens so late has germination been that the plants, instead of now being strong and fit to pull if so needed, are hardly 2 inches in height, and great fear is entertained lest hard weather should destroy them. If the sowings be of the usual soft worthless Tripoli, no great harm will

be done if such a result does follow. It is most likely, however, that the plants will winter well enough. The market growers who find a ready market for strong plants of the White Lisbon in the spring will suffer most. The effect on ordinary garden production should be to make growers take to winter sowing under glass all the more freely, and thus have plenty of strong plants to put out in the spring.—A. D.

Winter-sown Onions.—A cottager who just recently showed some very handsome bright hard bulbs of Ailsa Craig, the produce of plants raised by sowing seed in a frame in January last, stated that after the present season's experience he should not sow Onion seed in the autumn again. The bulbs were about 10 or 12 ounces each, as perfect in form and as solid as well could be, and though quite small when compared with those obtained by Onion exhibitors, yet were far superior to the best spring-sown samples, and would keep well for six months. It would be well if others who want very fine bulbs of the best form and good keepers would adopt this same method of raising seedlings and planting them out into good ground. There is with such treatment no trouble in drawing drills, sowing seed, thinning, maggot attacks or other worries, and the bulbs produced are of the finest quality. Several other good varieties are as useful for this form of culture as is Ailsa Craig.—A. D.

Potatoes failing.—The interesting articles on the Potato crop which you have recently published induce me to ask for your advice. Last year I bought a small quantity of Reading Giant, and they cropped well. The tubers which I saved have this year proved almost a failure. The sets were apparently in good condition when planted in the third week in April, and at the start they appeared to grow well. Then suddenly they stopped, that is to say, the tops did not develop into that thick, sturdy growth one expects to see, and when they were dug the tubers were few and small. The (to me) peculiar and unaccountable thing was that the old sets when dug up were, except for one corner, which had apparently borne tubers, as sound as when they were planted. The land was not heavily, but only moderately manured; at planting time it was very dry, and the space between the lines was 2 feet 6 inches. Two other kinds did fairly well. Can you tell me whether my failure was the result of the season or of any fault of my own?—ANATEUR, Derby.

Onions keeping.—I have learned from a satisfactory source that by the end of October the whole of the Tripoli Onions raised at Chiswick Gardens in connection with the Onion trial conducted there during the present year had become soft and worthless. Very frequently these soft, early decaying bulbs are over and useless much earlier, in many cases even in September. But then so much is common knowledge, yet in spite of it persons will persist in advising sowing seeds of these soft varieties only in the autumn, doubtless because it has become traditional practice. Cottagers and allotment holders as well as private gardeners grow the Tripoli annually, only to find the larger portion of the bulbs decaying so early that they represent great waste. As the Chiswick trial has demonstrated that certain good selections of the White Spanish and Globe types of Onions sown in August produce not only as fine, some even finer and far more solid bulbs, the following year than the Tripoli does, but when obtained, and they ripen as early, are far better keepers. How late the best selections from the Chiswick trial will keep will later be noted and published, but quite enough of the results now are known to enable it to be clearly shown that it is far better in making autumn sowings of Onions to sow good ordinary spring stocks than it is to continue to sow the soft bulbing varieties of traditional use. Even in the matter of hardness the Tripoli was not more so than were other varieties. When, as sometimes happens, a failure follows the spring sowing of Onions, it is well to have on hand a good stock of firm keeping autumn-sown bulbs.—A. D.

TREES AND SHRUBS.

VINES IN AUTUMN.

THE charming pictures appearing in these pages show one method of cultivating the ornamental Vines. They are portraits of plants in the collection of Vitis at Kew, where exigencies of space preclude their being allowed to ramble at will. They are spurred back annually, just as the fruiting Vines trained to the roof of a vinery are, and during the summer they are occasionally run over with the knife, care being taken to preserve as free and graceful an outline as possible. This plan, which turns the Vine into a graceful bush, can be usefully

I do not know that anyone has ever definitely described the climatic conditions which in this country produce the most beautiful autumn tints among hardy trees and shrubs. The general impression is, I believe, that a warm, not too dry summer, followed by a dry, sunny autumn, is what is required; in other words, a good growing season, followed by a good ripening one, the latter, however, being the more important. But the curious thing is that, however good (or bad) according to this hypothesis the season may have been, some plants will prove unusually good, just as others—perhaps with a better reputation—fail. Evidently what suits one plant does not suit another even in the same genus. On the whole, the Vines have

the Narrow-water and Castlewellan Gardens. There is no doubt that the young plants have not hitherto coloured with the same uniform brilliancy as the older ones mentioned. It is, however, possible that this may be due to their youth and consequent vigour. An unduly rank or very sappy growth is certainly disadvantageous in this matter of colouring. None of our numerous planted-out specimens of *V. Coignetiae* have ever coloured anything like so well as one that was kept in a pot and consequently half starved. This year they have, however, improved on all previous years. There is no need to recommend the group of Vines generally known as *Ampelopsis*. At any rate the two best of them—Veitch's *Ampelopsis*,

Vitis inconstans as it is called, and the Virginian Creeper (*V. quinquefolia*)—are known everywhere as wall climbers. But there is one variety of the latter that deserves special mention as not being very generally known yet. This is the variety *muralis* (or *Engelmanni*), which differs from the old common type in clinging of itself to walls, &c., just as Veitch's *Ampelopsis* does.

I do not think the true, more woody Vines of the *vinifera* type are used so freely as they deserve to be. Their vigorous habit, often noble foliage, and the rich and varied colours many of them assume in the fall of the year ought to make a selection of them indispensable in gardens where hardy climbers are grown. *V. californica*, *æstivalis* and *Coignetiae*—all of which colour a rich red when the season suits them—have already been mentioned. The two last have the largest leaves, and rivaling them in this respect and in luxuriance of growth is *V. Labrusca*, which does not, however, colour well as a rule, but still dies off sometimes a good yellow. The common Vine (*V. vinifera*) in most of its forms, including the Parsley-leaved variety here figured (*laciniosa* or *apiifolia*), turns yellow. But others are amongst the best red ones; the "Teinturier" variety, for instance, turns claret coloured. *V. Romaneti* and *Spinovitis Davidiana* become a rich reddish brown; they are also peculiar on account of their bristly stems. *V. Thunbergi*, a Japanese species, generally assumes a good red colour.

VITIS AMURENSIS is perhaps the most vigorous; it is a native of North China, Amurland, &c. It is a quick, luxuriant grower, less woody than most of the true kinds of *Vitis*, the young stems and leaf-stalks having a purple tinge. It has little or no autumn colour.

V. ARIZONICA, although coming from Arizona, has proved to be quite hardy. It is a plant of medium vigour and, as will be seen in the illustration, has leaves that are amongst the smallest in the true *Vitis* group. It is one of the prettiest to grow as a bush.

V. RIPARIA is another North American species, chiefly noteworthy among Vines for the charming Mignonette-like odour of its flowers; it is sometimes called *V. odoratissima*. It is quite hardy, but is not so rampant a grower as *V. Labrusca*, for instance.

V. SERIANÆFOLIA, which is also figured, is one of the hardiest and most luxuriant of the *Cissus* group. As will be seen in the illustration, the leaves consist of three or five segments, these being deeply lobed and toothed. It is one of the handsomest of the cut-leaved species. It is a native of China and Japan, and is sometimes called *V. aconitifolia*.



Parsley-leaved Vine (*Vitis vinifera* var. *laciniosa*).

Vitis riparia.

From a photograph by Mr. G. Champion in the Royal Gardens, Kew.

adopted where space is limited, but it does not show the Vines in their fullest beauty. They appeal to us most when they are left to grow naturally. Not all of us have had the opportunity of seeing Vines as they grow wild, for there is no species native of Britain or even of Europe, but there is an engraving in *THE GARDEN* for April 13, 1895 (p. 249), "Wild Grape Vines in the Upper San Joaquin Valley, California," which shows them as they grow under sub-tropical conditions. Under our duller skies we can never hope to produce a scene of such surpassing luxuriance and beauty as that; still, it is an ideal set before us. Even a feeble imitation of it would be worth striving for.

coloured better than usual this year, but there are some exceptions. Among the American species I have been accustomed to look upon *Vitis californica* as one of the best and most regular in this respect, yet this year it has failed. On the other hand, *V. æstivalis*, also American, which has not been hitherto considered to possess any special merit, has coloured most beautifully, equal, indeed, to *V. Coignetiae*, which has never been better. With regard to *V. Coignetiae*, there are still many who doubt whether the numerous plants raised from Japanese seed in this country in recent years under this name are the same as the famous Vine in the Knap Hill Nurseries or those at

Of the others in this same *Cissus* group, which does not contain many hardy species, the one known now as *V. capreolata* is, perhaps, the best coloured, its handsome divided leaves turning red. This is a native of the Himalaya and ought to have a wall to be safe. Another of the same group, *Vitis* (or *Cissus*) *arborea*, is from the United States and hardier; its doubly pinnate, handsome foliage becomes purplish red in autumn.

With regard to the autumn colour of Vines, the presence or otherwise of certain substances in the soil, such as lime or iron, may in some instances exercise a good deal of influence.

Kew.

W. J. BEAN.

The Oak and Elm.—Can any of your readers afford an explanation of what I consider to be a curious fact in connection with the Oak and the Elm this autumn? In a general way, the former is much later in casting its leaves, and I have more than once noticed Oaks quite green when all the Elms hard by were denuded of their foliage. This season the reverse is the case, and it is curious to see at this late period (November 17) many Elms with hardly a discoloured leaf, whilst Oaks standing in line with them look as if a sharp frost or a gale of wind would strip them. Taking into consideration the nature of the summer, one would naturally think that the Elm, which makes its roots so near the surface, would have cast its leaves at an earlier date than usual, whereas it is, I should say, quite a fortnight later in doing so. I have more than once seen Oaks quite green in the last week in November, but it would be difficult to find one in that condition now. I have only once in twenty-five years known the Oak to lose colour before the Elm, and that was, if I remember rightly, some fifteen years ago.—J. C., *Byfleet, Surrey*.

***Vitis heterophylla humulifolia*.**—The first time, I believe, that this charming blue-berried Vine fruited in England was just thirty years ago at Kew. For some reason, however, it has never become popular, and is really but little known, though occasionally it may be met with in good condition. Mr. Kingsmill, of Harrow Weald, has several times shown beautiful fruiting examples of this Vine, and at the Drill Hall on October 25 it again cropped up in fine condition. Yet despite the years since it was introduced and its beauty at this season, judging by the remarks overheard, it was quite unknown to the majority of the visitors. This Vine is perfectly hardy, and at the same time it is a first-rate climber for a cool greenhouse, glass corridor in a sunny spot, or any similar position. On a south wall where fully exposed to the sun it is very satisfactory, yet I find better results are, as a rule, obtained when planted in a rather narrow border than where the roots have an interrupted run. Some localities and some seasons are, of course, more favourable to its autumn display than others, the bright weather experienced during the present autumn being particularly favourable to it. Similarly the hot summer of 1893 was followed by a charming display of its beautiful bluish-tinted berries.—T.

The Sea Buckthorn.—The admirable reproduction of the fine group of this near the lake at Kew as well as the description of this fine hardy plant can hardly fail to give a much-needed stimulus to its culture. It is very seldom met with in our gardens, and yet more rarely found in such excellent condition as at Kew. No doubt one reason of this is the fact emphatically noted by Mr. Bean that the plants are of very unequal merit, the male plants being relatively unattractive. In raising the plants from seed, too, it has been complained that the males largely predominate, and there seems, as Mr. Bean says, no certain way of identifying the plants' sexes in a young state or until they begin fruiting. Many may reply, why not then propagate this strikingly beautiful plant only or chiefly from cuttings?

But this is easier said or written than done. I do not say that it cannot be done, but the process is slow and uncertain excepting in the case of root cuttings. The plants, however, are pretty fruitful of suckers and can also be propagated by layers. Probably were a brisk demand to arise for Sea Buckthorn, our enterprising nurserymen might take the trouble to prove the seedlings and guarantee the stocks they offer.—D. T. F.

LAURELS.

No other evergreen shrub gives such a pleasing effect during the long winter months as the several types of the common Laurel, especially when in masses or groups. Here a considerable area of ground is planted with them. I cut them over table-shape once a year in August and September. The plants are about 4 feet high when cutting is finished. Some judgment is needed in cutting so as not to get the surface merely a mass of snags with green points. The knife wants letting down and the branches here and there cut back, say for 18 inches. This causes a constant supply of young growths and allows the sun and air to get into them. One drawback with these masses of Laurels is that they are liable to be killed down, say once in twenty years or so, by the periodical zero winters we get in the north, though they generally break away again from the old stools and in a few years are at their usual height. Many persons condemn this mode of garden decoration both on the ground of its formality and the labour and expense in connection with the annual cutting. I do not think it is applicable in every case. Here it falls in admirably with the style the grounds are laid out, and after looking at the matter from all the standpoints I can think of, I certainly do not see any other way of planting that would come up to it here. As to the expense, it would certainly cost more if the area now filled with Laurels were laid down in grass lawns.

My main object in penning this note is to say how much better the giant or *Magnolia*-leaved, Caucasian, and round-leaved or *rotundifolia* varieties of Laurel are than the old common Laurel. During the past fifteen years I have always used one or other of these three varieties when planting Laurels. The first-named one is a splendid variety where a good bold effect in uncut groups is required. As you will see by the shoot sent herewith, it does not belie its name. Quantities of leaves made this year are 9 inches to 12 inches in length by $3\frac{1}{2}$ inches to $4\frac{1}{2}$ inches in width. The foliage and general habit of the second-named are much more characteristic than in the ordinary common Laurel, and I am assured by Mr. Gray, the experienced manager at the York Nurseries, that both it and the *rotundifolia* variety are more hardy into the bargain. For forming a bold margin to a long, straight road or covering sloping banks with a low carpet of pleasing green, the last-named variety is the best evergreen shrub I know.—H. J. C., *Grimston, Tadcaster*.

* * The system described by our correspondent is, unhappily, seen in almost every country place, and there is no way which is more against beautiful gardening and variety of flowering trees and shrubs. It is not only that their "table" shapes are ugly and the labour connected with them ignoble—in one place we know of nearly ten acres of Laurels cut down to "table" shapes—but we have to think of the many beautiful things they keep away. Their presence and that of a few other common shrubs are a clear cause of the absence from so many gardens and shrubberies of most of the beautiful flowering trees that have been introduced, and of much ugliness besides. As our correspondent himself shows, the Laurel is not even hardy. No plant whatever is right cut in "table" shape or any other ugly or absurd form. If we want Laurels, let them take their natural form—a very fine one. It is also a very common and ignorant way to plant Laurels, a medium-sized tree naturally, where we want low shrubs, say not over 4 feet or 5 feet high—hence the need for the constant

mutilation of the Laurel and annual labour for no end but ugliness.—Ed.

The Maiden-hair Tree.—Totally distinct from any other tree hardy in this country, and beautiful in all stages and at all seasons, the fact remains that it is very rarely met with, though it should certainly be more frequently planted for ornament than it is, as, apart from other features, the peculiarly shaped leaves, from which the name is derived, are singularly interesting. These leaves during the autumn assume a bright golden yellow tint, without any of the shading of reds or crimsons which are so common. It is particularly valuable for planting as a lawn tree, its various distinctive features being then brought prominently forward. It was introduced into this country over a century ago, and occasionally a good specimen may be met with in some old-fashioned garden. The Maiden-hair Tree was always regarded as a native of China and Japan till Professor Sargent made his journey to the latter country in the autumn of 1892, when he arrived at the conclusion that it was only cultivated there, never being found in a wild state. It occurred always in the neighbourhood of the Buddhist temples, being probably brought there by the priests. Some of the specimens are said to be fully 100 feet high, with tall, massive trunks 6 feet or 7 feet in diameter.—T.

***Tecoma radicans*.**—This I had great trouble with at first in my Suffolk garden. Knowing it was a gross feeder I planted it in a rich border against a wall. It lived, but never made any growth, so after two or three years I dug it up and planted it against an old potting shed in the gravel path, which some few years before had been heightened to make a slope to a door just cut in a wall at the side by the addition of quite 3 feet of chipped and broken tiles, and covered over again with gravel. It took my gardener half a day with a crowbar to make a hole for it. This I had filled up with some garden soil and the *Tecoma* planted. It now covers the whole potting shed, and has a main stem as thick as my leg, and is a splendid sight every year. It faces S.E. and is sheltered from the north. Every spring I prune it close like a Vine, cutting all the last year's spray off back to a good bud, and it then produces a dense mass of shoots, each clothed with a bunch of its fine flowers. It seems to like its stony quarters, for root suckers come up through the path very often. I had a good deal of trouble in propagating it till I laid some of the spring-pruned shoots lengthways in a trench at the foot of a greenhouse front wall, and then some time after I found that they had rooted at the joints and had sent up from each a plant. By this plan one can propagate it wholesale.—H. D. PALMER.

NOTES & QUESTIONS.—TREES & SHRUBS.

***Weigela rosea*.**—No pleasure ground or public garden is complete without a few specimens of this free-growing, profuse-flowering shrub. Young plants quickly grow into dense bushes and add quite a charm to the shrubby border in May. The delicate rose-coloured blooms are produced on long curved shoots, these having a charming appearance when placed in tall glasses or vases with a little of their own green growth added. *Weigelas* are not particular as to soil if well drained.—C.

Destruction of a forest.—There is great agitation in the Commune of Mentoulles, near Pinerolo, in the Alps, at the decision of the Municipal Council to sell the adjacent forest of Chambon in order to pay the debts of the Commune. The inhabitants of the Commune are opposed to the sale of the forest, which has so long protected them against avalanches and floods. This seems to be an instance when the Ministry of Agriculture could intervene to prevent the destruction of these invaluable alpine shields against torrents and drought. Every autumn large districts of Italy are inundated, and immense quantities of valuable property

destroyed by floods due to the overflowing of mountain torrents, which would never have gone beyond their banks had not the trees, which formerly absorbed a great proportion of the rainfall, been wantonly destroyed.

ORCHARD AND FRUIT GARDEN.

NOTES ON PEARS.

In dealing with Pears I will first give the varieties which I have found at Gunnersbury to do best. The Pear season commences with Doyenne d'Été, of which one tree is quite

change. The next, and always a good Pear, is Louise Bonne of Jersey. It crops and colours well with me on tall pyramids. Marie Louise and Thompson's are the next to ripen, both about the same time. Beurré Superfin, one of the best of Pears, succeeds these, being in its season a decided acquisition. Pitmaston Duchess is ripe also at the same period. For early November use Beurré Diel is one of the best kinds, being as a rule free from grittiness. Doyenne du Comice the prince of Pears, in my opinion—then ripens; in fact, I have it ripe much earlier from south walls. Then I get Beurré Clairgeau, and that much better in flavour than it is usually found. It ripens a

rarely ever fail to yield a heavy crop of fine fruits, some being in grass and others on tilled ground.

In some instances Pears will thrive better on light land than Apples, whilst, on the contrary, I have noted them in Sussex as doing better on heavy land than Apples. The kinds which I there noted as the best for heavy soils were Marie Louise, Glou Morceau and Easter Beurré; to some this may seem singular, but it was none the less a fact. I never saw better fruits of either of these Pears in any other garden, the Pear stock being the rooting medium. The largest and most prolific trees at Gunnersbury are also on this stock. I have,

however, some cordons and other trained trees on the Quince which are thriving well. In my case the merits of these two stocks appear to be pretty equally divided. My old trees, some of which are large and healthy and still bearing heavy crops, are no doubt on the Pear stock. Young trees, however, on the Pear stock do not bear so freely whilst young. On the Quince, however, the trees arrive at maturity much sooner.

I think for small gardens I am quite safe in advising that trees on the Quince stock be chosen; the growth is not nearly so luxuriant, whilst it is also easier and safer to keep the trees restricted in size. For orchards the Pear stock is, I consider, preferable; so is it on dry or poor soils. The Quince itself is usually found thriving best in moist places; this points to the fact that as a stock for Pears it should in this respect receive generous treatment. In deep soils I should also advise the Quince rather than the Pear as a stock. I well remember that the late Mr. Wildsmith was a strong advocate for the Quince stock, and he proved his point by the fine fruits he used to show from year to year. Pears on the Quince will bear more pruning than those on the Pear stock, from my own experience, and I doubt not from that of many others also. Whilst on the point of pruning, I would like to add a note on the peculiarity of Josephine de Malines in fruiting from the terminal buds. Long shoots of this Pear will often develop fruit-buds at and around the apex of each shoot. The moral, therefore, is not to cut these away; this is my practice, the pruning being

merely the thinning out of the weakest wood. The weight of the fruit upon the points of the previous year's shoots bears them down, and this induces plenty of flower-buds to form for the succeeding year. To those who have grown this Pear, but not so successfully as they could desire, I would advise the planting of standards rather than any other form of tree. When I first went to Gunnersbury I found several Pears of a non-fruiting character. These were on the Pear stock, and very rank in growth. I soon found that neither summer pruning nor winter pruning was likely to be efficacious, so I almost gave it up, letting the trees (pyramids) run away freely, merely thinning out weakly shoots.



Vitis arizonica. (See p. 425.)

Vitis serianifolia. (See p. 425.)

sufficient. It comes into use about the third week in July. Good samples of it are a pleasing change for the dessert, but small ones are poor. To prolong its season a few days, the gathering had better be done at different times. Jargonelle follows it by a little manipulation in gathering early, and afterwards at intervals. This Pear takes the season on to about the third week in August, when Clapp's Favourite comes in, this being in its turn followed by Williams' Bon Chrétien, which also should be gathered at intervals. Souvenir du Congrès fits in here; it is best-flavoured, I find, from double-grafted trees. Beurré d'Amanlis comes next, being quite a distinct and agreeable

little later with me than with some, being from a pyramid tree. The next Pear in order of ripening is Josephine de Malines; this variety, on the contrary, ripens earlier with me than in many gardens. This Pear is generally fit to use quite early in December, and it continues in season over Christmas, well into January as a rule. Glou Morceau ripens at nearly the same time, but it never lasts so long in good condition as Josephine de Malines. To succeed this Pear I rely entirely upon Beurré Rance, of which I rarely ever fail to secure a crop of fruit from tall pyramid trees. The one most reliable stewing Pear is Catillac, on the Pear stock; these are very large, healthy trees, which

This soon had its results in heavy crops of fruit, and from that time to this those trees have borne well. As an instance of how unproductive these trees were, I would state that for two seasons or so I could not find out what some sorts were, as they were not labelled. This rank growth, aggravated by the application of an exceedingly heavy crop of manure during the spring previous to my taking charge, had its natural results in canker, and that to a serious degree. By allowing freedom of growth, however, the trees in the course of a few years grew quite out of this disease, since which time it has not given any further trouble. In another case I adopted a very radical and peculiar system of pruning. This was upon an old horizontal-trained tree of Jargonelle, which, by the old labels on the wall, must have been planted early in the present century. The branches of this tree were perfectly barren and useless, so I sawed them all off close to the stem, thus leaving only the erect portion. The next season strong shoots were sent forth from the top, and in a few years I commenced to take good crops of fruit, and have never failed a crop, more or less heavy, ever since. I did the pruning once and for all when I sawed off the branches at first. Instead of the pruning-knife, now the crop of fruit does the work. In another instance I once saw and had charge of a tree of Jargonelle, which was also originally a horizontal-trained example. By reason of its paucity of fruit-buds the shoots were trained downwards from each spur, but the results thus achieved were but little better.

Now that cordon-trained trees are to be had in quantity, and that at cheap rates, no bare wall space need be unoccupied very long. This is a good plan for quickly furnishing a wall with trees that will in two seasons or so begin to give a return. I have some wall space covered now at 2 feet apart, but as the trees have reached the top of the wall I intend to incline them more obliquely, as the distance apart now will permit of some little reduction. Cordons are also admirable for arches over garden walks, in fact they are most convenient in many ways, and so are cordon Apples, besides using them as edgings. Besides the cordons of one or two stems, there are the "gridiron"-trained trees, to which I am rather partial, as they afford a little more capacity for root action than the single cordons. Espaliers, again, as in the case of Apples, are excellent so as to economise space, preferable, I consider, for narrow borders to pyramidal-trained trees. Where pyramids are grown a wider border would be better. This will allow of manipulating the trees as may be found necessary, as for instance when the shoots are pulled downwards, so as to form drooping pyramids, which I deem a better method than the semi-erect. Standard trees for gardens are not much to be commended, but I have found that Catillac is best grown as a standard. With me it is thus in every way most satisfactory. To my mind there is money in this fine stewing Pear if grown for market extensively. It is with Pears as with Apples, if any variety is not satisfactory re-grafting can be performed when the parent stock is healthy. This can be done with any form of training. I have known large horizontal-trained trees to be cut back within a foot of the main stem and then be grafted afresh. In doing this it is a good plan to select those which do best when double grafted, as in the case of Easter Beurré, Jargonelle, Thompson's, Souvenir du Congrès, Triomphe de Vienne, and Passe Crassane. I have no doubt many of us have taken note of how well some Pears have borne when trained downwards from the top of the wall, the trees

being on the other side. This points, I think, clearly to an extension of this system when other means fail to produce crops.

LATE PEARS,

i.e., those which ripen from the middle of December onwards, need all the sunlight possible to properly develop them whilst still hanging upon the trees. On walls, therefore, these should have favourable positions in furtherance of this object. The same ends may, however, be gained from standards and pyramids, the point aimed at being medium-sized fruit rather than large examples. I have had very clear proof of this myself in the case of Beurré Rance, which, in some gardens, does not ripen, hence, although not wasted, it has to pass through the kitchen. My trees of this late Pear are tall ones, hybrids between standards and pyramids; originally they were the latter form, I think. These trees never fail to crop since I got them through the canker; the fruits are of medium size, inclined to small, perhaps, but they never fail to ripen at least 80 per cent. of the crop. To some growers this might seem strange as contrasted with wall trees from whence the larger fruits are mostly taken. I think, however, I can give a satisfactory explanation. Late Pears have to arrive at maturity whilst on the trees, when the influence from the warmth of the sun is daily declining; therefore, if the fruits be large this influence upon each fruit cannot be nearly so effectual as upon the smaller ones. The latter become much better developed from this cause, I am quite positive. In support of this I would quote the Channel Island Pears of the latest kinds; there these are larger, it is true, but the ripening is brought about by more favourable climatic causes than in our case. To quote the experience of the late Mr. Wildsmith again, I would observe that he was surprised to see how well my Beurré Rance ripened, whilst with him it was used for stewing. Whilst on the point of the ripening of late Pears, I would state that it needs a little more warmth to properly finish them than what is the average temperature of the fruit room. To accomplish this, I advise that they be placed in boxes and removed to another room or house where the temperature is between 50° and 60°, still keeping them in the dark, thus avoiding evaporation in a measure. Grittiness in some kinds of Pears detracts from their otherwise excellent qualities. Beurré Diel is a case in point at least it has been so with me. It took me a few seasons to reason this out, but I have, I think, found a remedy. In warm and even the average of summers I have noted this failing repeatedly. Then we had a wet season or two intervening, and Beurré Diel was not nearly so gritty as usual. This would seem to be contrary to theory, if not to practice, but I think it is not so. In my case I am quite convinced that this failing is brought about by drought at the roots. I have proved this to my satisfaction by watering the trees heavily once or twice (i.e., large trees) when most needed during the swelling of the fruits, and in so doing have greatly reduced this defect. Whilst on the subject of

WATERING,

I will take note of this work in general as regards Pears, which I believe suffer sooner from drought than Apples. If the Quince be the stock, watering should have even more attention paid to it than if it be the Pear stock, as the former roots nearer the surface. When labour and water are both at a premium, the next best remedy is mulching; in fact, I would advise its extended application for the Quince stock, more

especially for the younger and more recently-planted trees. Another method of watering which I have adopted has answered well; it is that of applying the liquid manure from the farmyard when the cesspools have to be emptied; this I have done at quite different seasons and have been satisfied that it was beneficial.

NEW PEARS

call for a few remarks. Of these I have not personally had much experience, being rather shy of trying new kinds extensively whilst we have a wealth of good ones already. Of Marguerite Marillat I can speak favourably; it is a large and highly-perfumed Pear, something in the way of Souvenir du Congrès, but of decidedly better flavour. It is a September or early October variety, and will, I think, soon make its way into good collections. Emile d'Heyst, if not of such recent introduction, has at any rate come more prominently into notice during the last few seasons. It is of first-class flavour and the tree is hardy, whilst it crops well. Conference is another recent introduction; this also is a most promising Pear, of excellent quality and very productive. Its season is with me from the middle of October from a south wall. In dealing with both Apples and Pears I have not alluded to what may be termed fancy training. To see this art carried out in perfection one needs to visit the Continent. At both Ferrières and the School of Horticulture at Versailles these methods are adopted, and at other places also no doubt, but it was at both of these where I saw it practised. To enter into descriptions now would occupy too much time. It suffices to say that with those who adopt it, it is a work of patience and no doubt of love. More symmetrical trees I have never seen than in these two gardens. I have noted in England, however, that the vase shape of Apple trees as developed by the Messrs. Rivers and Son is to all appearances very practical and suggestive. J. H.

Pear Thompson's.—Noted as it is for its high flavour and excellent quality, this Pear is always welcome at the dessert, and when scarce, or if the trees fail to bear altogether, there are sure to be inquiries made as to its non-appearance on the table. Generally speaking, it is a very consistent cropper, and this year has proved no exception, one fine dwarf bush tree having been heavily laden with fruit. Like several other kinds of Pears, it has ripened somewhat earlier than usual, which might have occasioned a glut, but this is not a matter of any great moment here, as the demand at this time of the year with me is usually a heavy one. I always think that the flavour of this variety is unlike that of any other Pear. I formed this opinion some twenty-eight years ago when I first tasted it, and have never since had any occasion to modify it.—A. W.

Pear Duchesse d'Angoulême.—Plenty of warmth is requisite to bring out the good qualities and ensure the highest flavour in many of the Pears which find favour with cultivators in this country, particularly those of French and Flemish origin. The past few seasons have been very favourable for the ripening of such Pears in this respect, and perhaps none more so than the one we have so recently passed through. The flavour of most, if not all, Pears that have ripened up to the present time this year has been first-rate, which remark also applies to the variety mentioned in this note. The great heat has, perhaps, been the means of hastening the ripening in this particular instance, and so caused it to come into use somewhat earlier than usual; all the same, the quality and flavour are excellent. Duchesse d'Angoulême is rather an uncertain Pear, for, as has already been hinted, much depends upon the season. In an ordinary season, to say nothing

about a wet and cold one, the fruits of this variety are then only half melting, or at the best gritty—at least such is my experience. On the other hand, where the season is a warm one and there is an abundance of sunshine, the flesh is melting and free from grit. I find it to be much more satisfactory as a bush on the Quince than when grown in any other way, even when afforded the protection of a wall. If it is only in favourable seasons that it can be had in first-rate condition, it is such an excellent Pear that in spite of this drawback it is certainly worth growing.—A. W.

Pear Alexandre Lambre.—The almost tropical heat of the past season has suited this Belgian-raised Pear to perfection, as I never remember it being so large or of such excellent quality. I added it to the collection some few years ago with the view of testing its merits, as so many foreign-raised Pears, though satisfactory as regards size and appearance, are very deficient in flavour, and the cultivation of a good number has in consequence been abandoned. The trial of Alexandre Lambre, however, proved very satisfactory, as the fruits, if somewhat small, were well flavoured, and have continued to be so each year since the tree came into bearing. This autumn the quality is exceptionally good, and the fruit almost equals Marie Louise in richness of flavour. In two leading nurserymen's catalogues it is spoken well of and described as being good flavoured, which opinion I quite agree with. It is also a very good cropper. The fruits are as a rule medium-sized and regularly formed, having a pale yellow skin strewn with irregular patches of russet. It is a vigorous grower, and soon forms a good tree, the tree I have being a loosely-trained pyramid and worked on the Quince stock. For warm localities it can therefore be highly recommended as being a good sort to plant with every chance of success.—S. E. P.

WHAT BECOMES OF NEW MELONS?

It would be extremely interesting to know how many new Melons have been placed before the fruit committee of the Royal Horticultural Society during the last, say, ten years and have received recognition in the shape of a first-class certificate or award of merit. It would be still more interesting to know what has become of them all. The latest additions I see are Wythes' Scarlet and Gunton Scarlet, which received honours on October 11. Admitting that Melons must be distinct and good before receiving recognition at the hands of a board of experts, it is surprising how little is heard or seen of the majority of them afterwards.

At most of the meetings during the season several Melons are put up for certificate, and generally one or more awards are made. With a few exceptions, out of the large number of presumably new varieties that have received recognition during the period stated little or nothing more is heard of them, and such an old standard sort as Hero of Lockinge yet remains unsurpassed. The Melon appears to be a very accommodating plant, ready enough to break away from its old character and produce seedlings of more or less variation. But after all there is little stability about it, and new Melons have become so common that they occasion little or no comment. Supposing every Melon certificated during the past ten years had remained true to its character and kept up the quality presented at the committee table, there would have been variety enough to mystify an expert. But it is very evident that they do not, or otherwise there must be scores of first-class varieties hiding their lights under bushels somewhere. The question that naturally suggests itself is whether after all there is much gained by the introduction of so many new varieties of Melons. Few of them retain their character and good qualities, or they would not fall so quickly into insignificance, and probably it would be better, instead of granting an award from the flavour of one or two fruits, to insist on the variety having a fair and reasonable trial in cultivation

to prove the worth or otherwise of the sort, whether it is sufficiently distinct, and whether its growing and cropping habits are good enough to merit it being classed as a new and distinct variety. Under the present system, season after season presumably new kinds of Melons are shown, honoured with a name and an award, and then go their way, some few to keep their reputation, and many others to be heard of no more. Nothing could be more disappointing for a gardener to obtain a new variety that has received an award and has been highly spoken of and to find when he grows it that its character is not what was represented. G. H. H.

NOTES ON PLUMS.

IN THE GARDEN (p. 306) "W. S." has not over-estimated the value of the Plum in a private garden, and it would be well if not a few gardeners devoted more wall space to it, especially when it is taken into consideration the length of time good Plums may be had. In early seasons Plums can be had ripe enough for tarts by the middle of July, with an unbroken supply up till the middle of November. On referring to my note-book, I find I gathered ripe fruit of Early Prolific on July 18 from a young tree on a west wall. No doubt had this tree been on a south aspect the fruit would have been several days earlier. This was followed by Early Orleans, Jefferson's, Kirke's, and kinds named by "W. S.," with several kinds of late Gage and Magnum Bonum from north wall. Goliath hangs well on north aspects. To follow these I have several trees of Coe's Golden Drop. These I have on east and north walls, as also in a cold Peach house. I gathered the last fruits (several dozen) from open walls on October 14, as the wasps and rain were damaging them. Now (October 19) I have some hanging in a cold Peach house. The fruit from the open wall is placed in air-tight boxes in a cold, dry room and will keep a long time. Ickworth Impératrice I have still hanging on a young tree on a west wall. Coe's Late Red is a poor crop this year. Monarch is this year first-rate. My tree is young, and grew strongly for two or three years. I lifted it and replanted it in a fresh position, and the crop was enormous. I began gathering from it in the middle of September, and now (October 19) have two or three dozen, which are useful for cooking. This does not keep so well as Coe's and several others. I am at one with "W. S." regarding the value of Victoria. I am convinced there are far too many of this and other soft mid-season kinds grown. Mr. Crawford speaks of Pershore. Would he kindly say if he has seen this grown extensively away from the midlands? I saw it in Worcestershire, and obtained trees, planting them in a garden in North Hants, but they would not thrive. I once saw Diamond bearing enormous crops in a small nursery at Chobham, Surrey. JOHN CROOK.

Popular Apples.—On taking a more leisurely look round on the second day of the Hereford fruit and Chrysanthemum show, it was rather remarkable to note how frequently four particular sorts of Apples were exhibited in the collections staged in the various divisions, consisting of from six to fifty dishes. The four sorts were Blenheim Orange, Cox's Orange, King and Ribston Pippins, and they were shown in magnificent form, too, both as regards size, quality, and great depth of colouring. The fact of either, or all, being so very frequently selected by exhibitors proves how immensely popular these varieties are, and how much they are at home in Hereford, where large quantities are grown for market. It should also, in justice, be stated that a dish of Cox's Orange Pippin was awarded the prize for the "best dish of dessert Apples in the show."—A. W.

Pear Beurre Hardy.—Birds, particularly tomtits and robins, are very fond of this Pear, and unless netted they soon make holes in and completely spoil a great number of fruits in a few days. This is no doubt owing to the flesh being very

sweet, even when quite hard, and so sure as the birds make a beginning, wasps and flies quickly follow and soon demolish the fruits so attacked. As a hardy and prolific sort for general cultivation B. Hardy can hardly be surpassed, while its large size and handsome appearance at once arrest attention. It can be highly recommended as a fast grower, and on the Pear stock either bush or pyramidal-formed trees quickly attain to large dimensions. Worked on the Quince and grown in cordon form on a wall it is equally prolific, and the fruits in this case are generally very highly coloured.—W.

Apple London Pearmain.—Under this name a very handsome even and medium-sized Apple was included in several collections at the Hereford fruit show recently. On making inquiries I find that it is known in but a few districts in the county, but it is very highly thought of by those who grow it, one grower informing me that he intended working up a good stock of it. There is not the slightest doubt that it would make a fine market dessert Apple, as the colour is so much brighter than in the Herefordshire Pearmain, which it somewhat resembles in shape. I tested the flavour, and the fruits were firm and solid when handled, a pretty sure indication that the flesh is firm and crisp eating. On referring to the "Fruit Manual" I find it is accurately described therein, but the name of the raiser and the date of introduction are not given. I imagine, from the fact of its having been so described by Dr. Hogg, that if not generally known it must have been in commerce some considerable time. Perhaps some reader of THE GARDEN can throw light on the matter as to the origin and introduction of this variety.—S. E. P.

Apple Reinette du Canada.—I recently noted some very fine specimens of this useful Apple at Livermere Park, and could not help thinking what a pity it is that this variety is not in more general cultivation. The fruits are large, flattish, with a bronzy tint on the exposed parts, and, being very firm in texture, it possesses keeping qualities beyond the average. It is a well-known fact with those who have to keep the kitchen supplied that during the earlier months in the year there is a difficulty in getting really good sauce Apples. This is a free-bearing good all-round kind that just fills the blank, and would not be out of place on the dessert table if good-flavoured kinds are scarce. The fruit, like that of many late-keeping kinds, is, I think, better for remaining on the tree until quite late in the year, as it afterwards keeps more plump. My experience of it in these gardens is limited to an old tree untrained, but, judging by the style of growth, it should do as well as any on restricted trees, and is therefore suitable for small gardens. I am planting pyramids of it this season, and I am of opinion that it will prove very useful. Free-trained trees, wherever there is room for their development, give the best results, but where espaliers must be grown this ought to be one of the varieties.—H. R.

Pear Beurre Superfin.—I have a double grafted tree of this variety which invariably bears good crops of extra fine fruit, which greatly differs from that of the ordinary Beurré Superfin both in appearance and flavour. The skin in this case, instead of being pale brown and russety, is pale green, with a few russet patches distributed about it, and it is regularly dotted over with light brown russet specks. The flavour is neither that of Beurré Superfin nor Knight's Monarch, but midway between the two, and is very rich and refreshing. This change has been brought about by working scions of Beurré Superfin on a well-established tree of Knight's Monarch about fifteen years ago. It is from the latter variety that the variation in colour and flavour has undoubtedly been derived, and the only resemblance the fruits bear to typical Beurré Superfin is in the shape. I included a dish of this Pear in the first prize collection of twelve dishes exhibited at the Hereford show on November 1, which, as one of the judges told me afterwards greatly perplexed them on account of the

colour and markings on the skin being so entirely different from those usually seen in this variety. This tree always bears more heavily and regularly than single grafted trees, while the individual fruits are larger. Whether the same results would be obtained if the experiment were repeated in another part of the garden I am unable to say, but the above is a marked instance of the influence of the stock upon the scion, whilst it also serves to illustrate the value and the benefits that are to be derived from double grafting Pears.—A. W.

FIXING CLIMBERS AND FRUIT TREES TO WALLS.

THE value of climbing plants now in our gardens is so great, that the best mode of attaching them to walls is a question which, though it may seem a small one from some points of view, is important, and by no means settled for the best. In our self-styled scientific age—the age also of the galvanised iron church and the ironmonger's fence, which is no fence—our gardens have been invaded by galvanised wire, which for a long time past has been put up on garden and house walls, and is thought to be essential in all new work. The question does not merely concern walls for climbers round the house, but also the fruit garden. As in our cold country we cannot ripen the Peach or the choicer fruits without the aid of walls, galvanised wire is used in many gardens. But many growers discover that its effect on the trees is not good, and there is a foundation of fact in these complaints common to French and English gardeners. In France, where the cultivation of wall fruit to supply the market with Peaches and fine winter Pears is carried out well, the best growers are against the use of galvanised iron wire, and where it is used it is in stout lines along the wall, so as to tie wooden rods to it. This to some extent neutralises the disadvantages of the galvanised wire, but some growers object even to this use of wire, and think it much better to have the wooden trellis only against the wall; so they keep to the older and prettier way of wooden trellis-work. For those who care about effect this is well, for whatever harm the wire may do to the tree, of its ugliness there can be no doubt. The old French and English way of fixing branches to walls—having the trellis-work made of Oak in about 1-inch strips—was a very good one. Chestnut, too, was used, and was by some thought to be the best, and is often used now in France. There, too, in the training of fruit trees, small Pine rods, half an inch square, sometimes take the place of the old Oak or Chestnut. One advantage of such work is that it looks well on the walls even before we get our plants up, and there is the great facility of being able to tie where we wish, thus avoiding the use of nails and the other miseries of training against walls.

We have used Bamboos in forming trellises away from walls with very good results, and now propose to make trial on a fruit wall of a trellis-work of slender Bamboos put together in 2-yard lengths or so, under cover in winter, and when complete carried out and attached to the wall by strong eyes. The particular size of trellis used on walls depends on the trees we have to train; for training Peaches and Nectarines one must have rather a smaller size in the spaces of the trellis-work than we have for the training of Pears. Trellis-work made of Oak or Chestnut lasted for many years, and was thoroughly efficient, and a well-made trellis of this sort saves us all the trouble and injury to the wall of pock-marking it with nail holes, forming nests for vermin that destroy the trees or their fruit.

There remains the question of fixing our trellis-work of Oak, Chestnut, Pine or Bamboo. In old walls, halfposts must be driven; in new ones, pieces of iron with strong eyes should be laid along here and there in the courses of brick or stone as the work goes on. In a wall we are building now we use one with a forked end, so that, set in mortar, it cannot move. These

strong eyes are set one at about every 3 feet of wall surface.

Where the wall surface is given up to the training of Pears, Cherries, or other trees that require a stronger tie, it is best, we think, to use stout galvanised-eyed nails not less than 5 inches long and at about a foot apart. To these we can tie anything securely, and if for the training of very young shoots we wish to tie to a stick, it is very easy to do this by fixing a stick from one eye to another.—*Field*.

NOTES AND QUESTIONS.—FRUIT.

Apple Albury Park Nonsuch.—With me this fruited for the first time this season. The fruit is very pretty, somewhat conical in shape, pale green on the shaded side, flushed with red on that fully exposed. When cooked it has a pleasant flavour.—B. P. S.

Apple Wealthy.—The fruit of this is rather above the medium size, handsome both in shape and colour. The tree is a free grower and good cropper, but, like many others of its class, it does not keep sound for any length of time, but while in season it is of first-class quality.—S.

Apple Chelmsford Wonder.—The fruit is much after the stamp of King of Pippins, but larger and not so highly coloured. The tree has a somewhat loose habit, foliage large and stiff, similar to that of Blenheim Orange. It is a most prolific bearer, and the fruit keeps well.—P. B. P.

Apple Beauty of Bath.—With me the tree is a vigorous grower, and though it is said to be a prolific bearer, the reverse is the case here, for though the trees are several years old they have never produced anything like a crop. The fruit is very handsome and of good flavour.—P. Sussex.

Apple McIndoe's Russet.—Though the tree is hardy and a free bearer with me, this variety is disappointing, the fruit being rather small and of poor quality. This season it is almost worthless. The tree, however, is robust and does not canker, so that when it attains a larger size we may hope for better results.—H. C. P.

Apple Hambling's Seedling.—This new Apple was sent out in 1894. I like the appearance of the fruit, which is pale green, the surface dotted over with small greyish specks. It looks likely to be a long keeper, but this and its cropping capabilities I have yet to put to the test. The tree I have is a low bush and the variety evidently has a good constitution, as is shown by the fine clean growth made this season.—A. W.

Peach Bellegarde.—I am sorry to read that "H. R." is unable to get this valuable late Peach to colour properly with him. I have it growing on a west wall, where the fruits not only attain to a large size, but colour to perfection; in fact, during the last and the previous seasons the colour was quite a blackish red. It is a fine late sort, the fruits large and highly flavoured, and being such a good cropper, it should be grown wherever the Peach will succeed outdoors.—A. W.

Apple Sandringham.—The tree is of good habit and does not canker here like so many other varieties. The fruit is large and handsome when ripe, being yellow on the shaded side, while that fully exposed to the sun is bright red. We have but few Apples of this class that keep sound so late in the season. Unfortunately most of the large kinds are soft and soon lose their flavour, but in this we have one of first-rate quality that remains in good condition till March.—H. C. P.

Apple Newton Wonder.—In this we have not only one of the handsomest shaped Apples in cultivation, but at the same time most prolific, for this season when so many failed to produce a crop, trees of it were heavily laden with fruit. It is of free habit, and does not canker on a cold, heavy soil, which is a great point in its favour. Not only is the fruit of good shape and fair size, but solid, and keeps well, and from what I can judge of its qualities Newton Wonder has a great future before it.—P. U.

Apple Bramley's Seedling.—The tree is an extra strong grower on our heavy soil, but does not canker. It is, however, one of the shyest varieties I have. This is the first season that my trees have produced any fruit, though they have been planted several years, and now there is not more than a third of a crop. The fruit, however, is large and sound, and to all appearance will keep well, but unless the

trees fruit more freely they will not pay for the ground they occupy, so must be discarded.—H. C. PRINSEP. *Buried Park, Uckfield*.

Apple Rambour Papelon.—This Apple, which is quite new to me, I saw growing in the Royal Horticultural Society's Gardens at Chiswick a few weeks ago. The tree, which is a bush, was carrying a few fine fruits, which were quite distinct and handsome in appearance. I have seen it stated that it is a long-keeping sort, and should imagine it to be so, judging by the firm, clean-looking appearance of the fruit. If such is the case and it proves to be a good bearer, it will be a valuable addition to our late-keeping Apples.—A. W.

Pear Beurre Alexander Lucas.—This is a very handsome November Pear and one which gives off a powerful aroma, reminding one very much of Mme. Treve in this respect. All further comparison must, however, here cease, as the variety just mentioned is a crisp eating rose-water-flavoured Pear, while B. Alexander Lucas has a melting flesh, with a delicious flavour. It succeeds very well as a cordon on the Quince. The tree makes excellent growth and seems to be quite hardy. Intending planters of wall Pear trees should include one or two trees of this sort.—S. E. P.

Apple Belle de Pontoise.—This is a rather new Apple and withal a very handsome one, both in outline and general appearance. In shape it is somewhat between Blenheim Orange and Bismarck, and when well grown is beautifully coloured. I noticed a grand dish of it at the recent fruit show held at Hereford. As a bush tree it grows vigorously, and will no doubt when established bear well, but so far I have not been able to form a correct estimate of its cropping powers. As regards its appearance, there is no question about its being a fine handsome Apple, and if it will only crop freely it will no doubt in time be grown in quantity for market.—A. W.

GARDEN FLORA.

PLATE 1198.

INCARVILLEAS.

(WITH A COLOURED PLATE OF I. DELAVAYI.*)

THE genus *Incarvillea* is peculiar to Central Asia, and is closely allied to *Amphicome*, of which *A. Emodi* and *A. arguta* are in cultivation in greenhouses. It belongs to the order Bignoniaceæ. Until about five years ago only two species were known, viz., *I. chinensis* and *I. Olgae*, of which *I. Koopmanni* is a variety. Now there are said to be ten, and of these we have in cultivation the following:—

INCARVILLEA DELAVAYI.—We owe the introduction of this beautiful plant to the French missionary, the Abbé Delavay, who discovered it on a lofty mountain in Yunnan, West China, at an elevation of 8000 feet to 11,000 feet. Seeds of it were obtained and distributed by Messrs. Vilmoren and Co., of Paris, in 1893, and also by Mr. W. Thomson, of Ipswich, who first offered it under the name of *I. alpina*. It was first tried under cool greenhouse treatment, but experiment proved that in sheltered gardens—at any rate, in the warmer parts of the kingdom—it was hardy, and far more satisfactory in the open air than when grown under glass. It first flowered in a cool greenhouse at Kew in May, 1895, and in the same month Sir Trevor Lawrence showed a plant of it at the Temple show, where it obtained a first-class certificate. Mr. Burbidge also records in *THE GARDEN*, June 8, 1895 (p. 394), the flowering of a plant by Mr. T. Smith, of Newry, in whose garden some plants had passed through the winter uninjured and were then pushing up their leaves and flower-spikes. Since then the plant has been generally cultivated, and it is now recognised as a first-class summer-flowering plant for a sheltered border or nook in the rock garden. It has a stout, fleshy root-stock, with a very short subterranean stem, from which spring the deciduous fleshy.

* Drawn for *THE GARDEN* in Messrs. Wallace's nursery at Colchester by H. G. Moon. Lithographed and printed by J. L. Goffart.



bright green, pinnate leaves, each a foot or more long, the toothed leaflets 4 inches to 5 inches long. The flower-scape varies from a foot to 2 feet, or even more in length, and bears from two to a dozen or more flowers, which have a bell-shaped, lobed, green calyx an inch long and a trumpet-shaped corolla 2 inches long and 2 inches wide, coloured rich rose, with a few purple streaks and a tinge of yellow in the throat. If grown in pots, the plants should be rested in a cold frame in winter and allowed to start in spring in the same place. During the summer they should be stood in the open air, with the pots plunged in ashes. They prefer a rich loamy soil.

I. GRANDIFLORA.—A recent introduction from China, which flowered at Kew in June this year. It is similar to *I. Delavayi* in general characters, differing in its shorter leaves, more rounded leaflets, short scapes, bearing only one or two flowers as large as those of *I. Delavayi*, but with narrower calyx lobes and longer corolla lobes, whilst the colour is a deep rose-red. This may be only a form of *I. compacta*, discovered some years ago in Kansuh. Dried specimens show about a dozen scapes on a plant. Another species found recently in China and, I am informed, now in cultivation in France is

I. LUTEA, which is described as having yellow flowers as large as those of *I. Delavayi*.

I. OLGA is hardy in a border against a wall at Kew, where its stems interlace and cover the ground for a yard square or so with its bright green pinnate leaves and, borne upon the upright ends of the branches, panicles of rose-pink tubular flowers each an inch long and wide. It was introduced from Turkestan in 1880, and a form of it, *I. Koopmanni*, was figured in the *Botanical Magazine*, t. 6593 (1881).

I. SINENSIS is similar in habit to *I. Olga*, but the flowers are bright red and shorter in stalk.

All these plants are certainly perennials and not annuals, as stated in botanical works.

W. W.

THE WEEK'S WORK.

HARDY FRUIT.

PEACHES AND NECTARINES ON OUTSIDE WALLS.—**AUTUMN PRUNING.**—Those who perforce of circumstances may have left the wood rather more thickly than they would desire will do well to give the trees a thorough overhauling now. Where any strong shoots must be removed, it is far better to do this in the late autumn than in the early spring. By so doing the wounds have a better chance of healing over than they would otherwise do, with fewer possibilities of canker or gumming in the future. Where the growth is at all strong, a corresponding check at the roots is most desirable, this being done at the same time. It may not be actually necessary to lift every tree, but if that be the case, do not hesitate in doing it, and if there is a tendency for the roots to strike downwards, place three or four roofing-slates under the base of the stem. This will be found effectual. Young trees have a disposition to grow too strong, especially if they are planted in a soil containing too much humus, and if it has not been possible to secure a heavy crop or two so as to modify their condition in this respect. These, too, will probably want room for extension, which also should receive attention, as before alluded to. Where the trees do not require to be lifted, it will be well for them, if they are making wood that is too strong to be fruitful, to cut around each one at about 3 feet or 4 feet from the stems and to a depth to reach the lowest roots. Then, after these have been carefully pruned, replace the soil in a firm manner, not forgetting that most essential work in every instance of lifting or replanting, viz., a thorough watering. As my trees are unfortunately upon walls with galvanised wire running horizontally, they have to be removed from the wires every autumn. When this is being done, the pruning, too, receives attention. At the present time all of this work is

finished, the weather having been most favourable for its performance. Now the only remaining operation is that of a good winter dressing of an insecticide. It might perhaps be as well to mention the naming of these and other fruit trees at this juncture. If dependence be placed too long upon the nursery labels the writing will be obliterated and perhaps a confusion afterwards arise. The Acme labels appear to serve a good purpose. I find them answer very well both inside and out. In any case use material that will be of a durable character.

WINTER DRESSING OF FRUIT TREES.—No better opportunity than the present can be had for giving this necessary and labour-saving work in the future thorough attention. Where there is the slightest need of such, do not by any means be induced to postpone it until the spring, but set about it with a determination, if not to completely exterminate, at least to so reduce the numbers as to minimise the injury they may do if after-attention be paid to them. With so many good and reliable insecticides as we now possess it might appear somewhat invidious to name any in particular. Mention will only be made of the following which I know by actual experience to be effectual. One of the oldest is Gishurst compound, which still keeps up its reputation. As a wash or for application with a brush, as in the case of American blight, it is one of the safest and best to use. The prescribed strength may in bad cases be exceeded. A more recently introduced insecticide is the XL All. This has great penetrating power, being most effectual and safe in its use. For the worst of cases, where insects habitually have given trouble, this remedy is advised with every confidence. Bentley's preparations, viz., soluble paraffin oil and insecticide, are both efficacious and reliable. The former has great penetrating and lasting properties, two strong points in combination. For use upon old walls or upon the rough bark, as that of old trees, it is, I think, the best of any to use. The latter is, so far as I have used it, a very strong solution, being well suited to desperate cases. When using any of the foregoing, never exceed the prescribed strength, save in the case of Gishurst compound, as instanced. The best time for applying these or any other insecticides as winter dressings is when the bark of the trees is well moistened, but not when it is actually raining. In dealing with American blight, two or three applications may be necessary, but when this operation is done, let it be in a thoroughly efficient manner. No half measures will suffice to exterminate it. I have now some Apple trees which are attacked, but upon which extermination has been pronounced, and Gishurst will be put to the test to accomplish it. In doing this, the top soil will be removed to see if the roots are at all affected. Cherry trees are frequently infested, as most of us know to our cost, with the black aphid. The past summer was in some instances a notable one in this respect. Fortunately, however, a strong application of XL All was applied in the winter previous, and then during the summer it was a comparatively easy matter to keep this insect pest in abeyance by the use of Bentley's quassia extract. If Cherries now receive two doses at short intervals and another in the spring, both labour and annoyance will be spared next season. Possibly some few shreds of the old type—i.e., cloth and leather—are still in use. If so, they should all be removed if insect extermination is aimed at. The best shreds by far are the medicated ones; in these the insects do not find a congenial home.

PEARS AND PLUMS against walls I have noted during the past season or two as being troubled with a small caterpillar to a rather serious extent. If others have observed this, the application of a winter dressing is most desirable. So also is it in the case of the Plum or blue aphid both against walls and upon standard trees. If immediate attention can be given to pruning, it will be more expedient to do it, also the nailing, using all new shreds, and then to apply these winter dressings

both at right angles with the walls and also obliquely.

PLANTING.—As the weather still remains open and favourable for this work with the ground in good condition too, planting should be pushed forward without delay. Note previous writings and cautions against a too free use of nitrogenous manures, which, good as they are in their way, are not the thing for young fruit trees fresh from the nursery. Their use in the nursery up to the removal stage has no application whatever when transplanted to our gardens. So far it has been important to secure a free growth to lay the foundation of a future thriving tree. Continue the use of nitrogenous manures, and this free growth will increase out of all proportion and end in, first, unfruitfulness; secondly, in severe pruning of the branches, if not root-pruned; and, lastly, in canker, or in an ill-proportioned tree. This is a short, but fair summary of what has often occurred. It need not be so, however, with due caution and frequently, too, with less expense. Even loam of moderate quality is much better than farmyard or other exciting manures. The first object is (or should be) to establish a tree without fostering a rank growth, and then to keep it in submission by cropping afterwards. If pushed for time the mulching of newly-planted trees may be deferred for a few weeks, but do not let it escape notice later on. This mulch may be of any manure at hand, either from spent Mushroom beds or the stable or farmyard. Possibly before it is applied the trees may need a gentle, but firm treading, with a little more soil added upon the surface to bring it up to the regular level. HORTUS.

KITCHEN GARDEN.

EARLY PEAS UNDER GLASS.—Of late years we have had more choice of varieties for growing in the way described, and, what is better, there is superior quality in these early varieties. This is a gain in the right direction, as the small white-seeded Peas when forced are of short duration and not of the best quality. For pot culture, Sutton's May Queen is a beautiful Pea on account of its quality and the freedom of growth. The haulm branches close to the soil and the pods hang in profusion. The height of the plants, if not too crowded, is only 2 feet. It is one of the earliest kinds I have grown. Another very fine forcing Pea is Early Giant, and I know of none to equal it for cropping. It is rather tall for frames, but for quantity of crop and quality it is excellent. For starting under glass at this season and then planting out, I do not know of any kind better than Springtide, a very dwarf variety and one of the first to mature. Anyone who can afford space to grow Peas under glass will do well to give this a trial. Another equally good kind is Daisy. This I grow in quantity for planting out. Many sow in small pots and later on transfer to larger ones, but I find I lose time, as in too large pots the roots decay. I find it best to fill the pots in which the Peas are to grow about three parts full, and then top-dress as growth is made. Avoid crowding the plants. If sown thickly there should be severe thinning when the plants are well above the soil and it can be seen which is the strongest. High temperatures should be avoided, and as growth increases, a position near the glass and plenty of air are essential. Peas do well in frames, as grown thus they are close to the glass. In pots more warmth may be given to start the seed, and in all cases use fresh seed. The soil should not be too heavy. I find loam, spent Mushroom manure, and some bone-meal suit the pot plants.

PEAS FOR OPEN GROUND.—Many growers who need early Peas sow for first supplies in the open ground during this month if the weather is open. If Peas are sown in the autumn it is better to sow whilst the soil is in fair condition as regards moisture than to defer it to mid-December, as at this date the seed often fails to germinate. With open-air sowings there must be more care in the selection of varieties. I have found such kinds as Chelsea Gem, Wm. Hurst, and Sutton's and

Carter's Forcing do well in well-drained soil. These being very dwarf are most suitable for the purpose. In wet or clayey soil I do not advise sowing these varieties now, as the seeds fail to germinate freely. In well-drained land there need be no fear of the seeds germinating. Even then the grower will have difficulties; birds and mice are very fond of the young growths, and must be watched. It may be asked if it is worth while to sow Peas in November. I do not advise it only under the most favourable circumstances. In the open ground it will be well to sow thickly at this time of year. Another mode of culture that may be adopted with advantage is sowing in pots for planting out. I do this largely, and get an excellent return, as by giving the plants a start under glass one can grow kinds with a marrow flavour and which give larger pods. I sow in cold frames at this date in 5-inch pots, six to nine seeds in a pot, and place close to the glass. By the end of February they are strong plants, and having been grown as cool as possible can be planted out without fear of losses and soon take to the soil. During the winter and at sowing time they need but little moisture, and I find the plants rarely go back if not given heat from the start. For sowing in this way, such kinds as Springtide, May Queen, and Daisy are the best.

FRENCH BEANS.—When we are able to gather French Beans in the open in the middle of November, the plants having had but slight protection, it shows what a remarkable autumn we have had. It will now be advisable to give more warmth to the plants in frames, as after this date it will be out of the question to get a free set, as the plants do not make new growth freely. Every endeavour should be made to assist the pods to get those that are set to swell freely. To do this, water with tepid manure water and give a little more warmth in the pipes, at the same time giving more air. The pods should be gathered regularly, as if fully grown they will prevent the smaller ones swelling. I do not advise, as is often done, sowing in pots at this date for supplies early in the year. If necessary it must be done, but the crop is so poor in comparison to the labour and room occupied, that Beans sown in pots at this date are not worth growing. Far better sow early in the year, then with lengthening days and more sun-heat the crop will pay for room occupied. After that date seed may be sown every three weeks to keep up a regular supply.

LATE CELERY.—It will be advisable to now earth up the latest rows of this; indeed, in a heavy soil, many will have already done this. I never earth up the latest lot till the end of October, but this year I am much later, as it was not safe to do the work earlier, the soil being none too moist and the plants backward. Previous to earthing up it will be well to give a good dressing of soot, as the plants will now be liable to attacks of slugs and worms, and when in a blanched state later it is difficult to apply remedies. In land infested with slugs I find it well to place salt on each side of the plants in showery weather a few days in advance of moulding up. This, with a free dressing of soot, will scatter the enemy. It will not be well to tie up late plants too close, as with open weather the leaves will still continue to develop. Previous to earthing up it will be well to see if the soil at the roots is moistened, as though the rainfall of late has been plentiful, I note some of the earlier-lifted roots are quite dry at the base.

PLANTING LETTUCE.—Though full late to advise planting Lettuce, the mild season will admit of the work being done if the soil is light and well prepared for the plants. There is a great gain in having a good breadth of autumn-planted Lettuce, as, though there may be considerable losses in the winter, the crop is so much earlier. It often happens that Lettuces planted out will stand whilst those in the seed-bed are killed. Owing to the seed germinating rather badly, I planted much later than usual. I prefer October for the work, but the land is in capital condition, and I

am now planting on south sloping borders in front of vineries. Others may have a wall to spare, and at the foot of this the plants will do well. It is important to make each plant quite firm. I lift as carefully as possible with the roots intact, and in heavy soil the addition of lighter soil for the surface will be advantageous. Years ago I had a number of turf-pits. These I found invaluable for Lettuce, and others may be able to give temporary shelter in the way of boards or frames. Needing large quantities, I plant some thousands on borders and get a fair return if the plants are protected from birds and slugs.

SPRING CABBAGE.—Owing to the heat and drought at the time of planting the first lot, there were more losses than usual. These should have been made good, and it will now be well to prepare the plants for the winter. It is well to thoroughly firm each plant by treading along the rows each way, and then moulding up well to the lower leaves. This firming of the plant is a great safeguard, as the Cabbages make a sturdier growth and are thus better able to resist frost. I lose very few plants by running or other causes when planted in firm soil and the plants treated as advised. Later beds will need filling up where plants have failed. I have never had so many plants go blind as this season. I always after tilling up the quarters prick out into lines 6 inches apart a goodly number of seedling plants for early spring use, these coming in useful as a succession to the earlier ones. Plants treated as advised may be made good use of. Pickling Cabbage, if required of a large size, should now be planted.

S. M.

STOVE AND GREENHOUSE.

ABUTILONS.

THESE, several of which will flower continuously throughout the year, do not command the attention they deserve. Some twenty years ago, Mr. J. George raised some fine varieties from *A. Darwini* and *A. venosum*, and they seemed likely to be popular, but have apparently dropped into the background since, for they are rarely exhibited at the present time, and I doubt if a good collection could now be found. At the time I refer to, the Royal Horticultural Society had a good collection, and they were grown both as pot plants for winter flowering and for bedding out in summer. For the latter purpose they were certainly very attractive, but for winter flowering they were not quite a success, as being within the range of the London fogs all the buds would drop after a day's visit of this destructive element. I have never had an opportunity of trying them beyond the reach of London fogs, but should think they would prove valuable, especially such varieties as *Golden Fleece*, which is of a deep golden-yellow with large flowers. The pure white *Boule de Neige* is also very free. There are numerous varieties with flowers varying from orange to deep crimson. In addition to those which are worthy of culture for their flowers, there are several with variegated foliage which are useful both inside and outdoors. One of the finest is *A. Sellowianum marmoratum*, with large, heart-shaped leaves, beautifully marbled with yellow and green. This is most suitable for indoor culture. *A. Thomsoni* is the best yellow variegated variety for outdoors, and *Souvenir de Bonn* is a good companion, having a silvery white margin to the leaves. The variety referred to in *THE GARDEN* (p. 400) is quite a distinct species. It is perhaps best known as *vexillarium*, but *megapotamicum* is the most correct name. The variegated variety is the most desirable. It may be used as a climber for the roof of a cool greenhouse, and is very effective. The

flowers, which have a peculiar globular, crimson calyx and yellow petals, are produced almost continuously throughout the year, and are seen to advantage when hanging from a roof. This variety may also be used for the flower garden. Grafted on tall seedlings of the *venosum* type they make pretty standards.

All the *Abutilons* like a good loamy compost and a liberal supply of manure. Provided they are kept free from red spider they give little trouble, but being of rapid growth, they soon get too large for ordinary use, but this may be overcome by propagating periodically. The cuttings will root freely in the ordinary stove propagating pit. The strong-growing tops if taken off about 3 inches long and inserted singly into 3-inch pots, taking care that they do not get withered, will soon root, and in a short time will be ready for potting on into larger pots. Cuttings put in now will make fine plants for planting out in the spring or for early flowering in the conservatory. If a little more attention were paid to keeping up a stock of young plants I think *Abutilons* would be more popular. I may add that they seed freely, and by judicious crossing some fine varieties may be obtained. It is a mistake to cross various colours indiscriminately. The best habited plants should be selected for the seed parents, and the pollen may be taken from a brighter shade of a similar colour. The pollen parent will generally improve the colour, while the seedlings will retain the habit of the seed-bearing plant. Seedlings generally run up rather tall before flowering, but as soon as they have been tested those worthy of perpetuating may have their tops taken off and rooted as recommended above, while some of the strongest of the inferior varieties will make good stocks for grafting *A. vexillarium* on. H.

Urceolina pendula.—This extremely pretty bulbous plant has been flowering for some time, and, being so distinct from anything else, it is sure to attract attention. The blossoms, in shape like inverted urns, are of a rich golden-yellow colour, except just at the mouth. The individual blooms last some time, and as they are borne during the autumn months, such a distinct and attractive plant is all the more appreciated. Beside the specific name of *pendula*, it is quite as frequently met with under that of *aurea*. It is a native of Peru, and was first discovered by Mr. Pearce when travelling for Messrs. Veitch, with whom it first flowered in 1864.—T.

Shading Lapageria.—This fine cool house climber dislikes hot sun, and must, therefore, get some shade when grown in a house which receives the full sun during the hottest part of the day. That shading may be carried to an excess I have, however, this year had good proof. I have a plant in a lean-to house which has hitherto annually produced hundreds of blooms. This season the amount of bloom produced has been far below the average, and I am convinced that this deficiency is caused by too much artificial shade. Hitherto I have either shaded with whitening or with mats, which have been removed when the sun began to lose power, but this year when the hot weather set in I nailed some old mats on the roof, and these remained all through the summer and early autumn. The plant has a very green, healthy appearance, but it is only where shoots escaped a little from the dense shade that flowers were freely produced. It was curious to note that one shoot which pushed through a hole in the glass was crowded with buds. It is evident, therefore, that in the case of *Lapagerias* shading may be overdone.—J. C. B.

Abutilon insigne.—This Brazilian species of *Abutilon* is widely removed from the ordinary garden varieties, and cannot be induced to flower in a satisfactory manner when small, as many of them will. Despite this, it is, however, in every

way a striking and beautiful kind, which is seen at its best as a roof or pillar plant, or at all events where so situated that it has good space for its development. It is a strong-growing species, with large heart-shaped leaves of a particularly thick rugose character. The flowers are, as in most of the other *Abutilons*, drooping, and borne on long slender stalks. The shape of the blossoms is that of an open bell, the colour being a deep crimson with blackish veins, and the peduncles being so long an extremely pretty effect is produced when the plant is in full flower. It blooms for a considerable time, but, as a rule, the greatest quantity of blossoms is borne during the autumn months. To succeed with *A. insigne* it needs more heat than the garden forms, and should be given the warmest part of the greenhouse, or, better still, an intermediate temperature. Being of free, vigorous growth, it is more satisfactory planted out in a border than when confined in pots.—H. P.

Bouvardia odorata alba.—This variety of *Bouvardia*, alluded to on page 366, is quite distinct from any of the numerous forms in cultivation, and it is in every way a very desirable kind. The habit is good and it flowers freely, added to which the flattened clusters of blossoms as well as the individual flowers are large. As pointed out on page 366, the comparatively short tube of this variety is greatly in its favour, for it is not so liable to break as the long-tubed section, of which *B. Humboldtii corymbiflora* is a well-known example. Another large flower with a short tube is the pure white variety *Purity*, first sent out by Mr. H. B. May, of Edmonton, now some years since. Though bearing the name of *B. odorata alba*, the flowers are really not pure white, being slightly tinged with pink, and in the bud state this hue is still more pronounced. It is of continental origin, and when sent out it was described as a hybrid form of *B. Humboldtii corymbiflora*. At all events it is a charming variety, and should, where these plants are grown, be always included in the collection.—T.

VIOLETS IN POTS.

ALTHOUGH it has its advantages, the pot culture of Violets does not, as a rule, find favour among gardeners. Some years ago gardens about Chislehurst, in Kent, were noted for their splendid Violets, the plants for the most part being flowered in pots plunged in ashes in frames or shallow pits. Runners were planted out in May, a north border being given, leaf-mould being the principal ingredient added. The parent plant was kept to a single crown, some half-dozen runners being allowed to form on each, these being duly pegged into the soil at equal distances. In October lifting and potting were done, but of course no soil to speak of could be got to the roots, a fact which set me against this system of potting, as the frames had to be kept close and the plants syringed until they became established. Ten-inch pots, well drained and filled with light loam and leaf-mould, were used, Violet growers in those days not tolerating manure. The parent plant was placed in the centre of the pot, the strong-rooted runners being equally disposed around, plunging to the rim completing the operation. The Chislehurst growers grew only the Neapolitan, Marie Louise being then little known, and they may have found the pot system suit this particular variety best. Potting up a few scores of plants in autumn, one plant in each pot, is a good plan where a position near the glass in a cool, airy house can be given, as it enables one to gather a few bunches in time of severe frost without uncovering the frames. Good plants carefully lifted with a ball of soil will take an 8-inch pot, any fairly rich loamy compost answering for potting. Give ample drainage, and when potting leave a good margin for water. It will be best to keep the plants in a frame till frost necessitates their removal to the house. Syringe overhead lightly on fine days to freshen the foliage and lessen the liability to red spider, and take care never to let the roots suffer from

want of water. Some of the best Violet pits I have seen are at Thoresby. They are furnished with a flow and return hot-water pipe, which is warmed in very sharp weather. The annoyance of being unable to open the lights for weeks together, as is sometimes the case in unheated pits, is thus avoided. J. C.

BEGONIA MOONLIGHT.

I HAVE not seen this *Begonia* for some time, though twenty years or so ago I used to grow it in considerable numbers. It was first brought under my notice by the beautiful flowering specimens in the Royal Horticultural Society's gardens at Chiswick, which created such a favourable impression that it was then much sought after. To obtain good flowering specimens it was necessary to propagate it on the same lines as those laid down a few weeks ago in *THE GARDEN* for the increase of that extremely popular variety *Gloire de Lorraine*, for, like that kind, cuttings of the flowering shoots would never break out and form a bushy specimen. Such being the case, the plant was partially rested and cut back, when the shoots pushed out near the base were taken off and treated as cuttings, and, like *Gloire de Lorraine* above noted, they formed pretty bushy specimens.—H. P.

—Like "H." I have not seen this variety for some time, having lost the stock of it some few years back. It is, however, a remarkably free-flowering kind, and, as "H." justly remarks, would make a fine companion to *Gloire de Lorraine*. Another free-blooming sort is *B. Carrieri*. This may be had in flower at any season, but by striking a batch of cuttings late in the summer and growing the young plants on quickly afterwards, they will bloom during November and December. With respect to this variety, I have two types of it, the one having a smooth leaf, that of the other being hirsute, but they are identical in the form and size of flower, and both are very free flowering. *Gloire de Sceaux* is another free-flowering sort, but later, and this has ornamental foliage, the colour of the leaves being a bronzy red. *Gloire de Lorraine* is, however, the freest flowering of all. At the Malvern Chrysanthemum and fruit show, two splendid groups of this variety were staged by Mr. Crump, of Madresfield Court, and Mr. Fielder, of St. James's, West Malvern, which attracted attention. They were certainly the best grown examples of this variety that have ever come under my notice.—A. W.

HYDRANGEAS FOR HOUSE DECORATION.

AT one time large specimen *Hydrangeas* were grown for placing in front halls and other conspicuous places in private mansions, and no plant is better adapted for it. Market growers have a knack of producing one immense head of bloom on small single-stemmed plants, and while these may have their own special merit, I prefer larger plants with numbers of trusses evenly disposed over a surface of dense green foliage. It is then its real value as a decorative plant is seen. It takes several years to produce large specimens, but they well repay the labour and patience. Well-drained pots and a good holding yellow loam, three parts, and one part well-rotted manure and road grit suit them well. It is always wise to give cold house or pit protection in spring, as sharp frost is apt to catch the young growths and turn them black; but all danger of frost being over, the most suitable position is a semi-shaded one out of doors. Towards autumn, however, a sunny position is necessary for thoroughly maturing the growths. The plants must be assisted with liberal doses of liquid manure, and the flowering stems supported with neat sticks; if these are painted green, so much the better. After flowering, the old growths should be cut out, and the new ones from the base of the plants encouraged. When at rest during winter they are best plunged either in ashes or leaf-mould in a sheltered place. Large

plants may be supported in the same pots for several years by liberal top-dressings and frequent supplies of liquid manure, and when too ungainly to be retained as pot plants, they may be planted out in sandy soil in pleasure-ground borders, younger specimens being brought on to replace them. J. C.

ZONAL PELARGONIUM GUILLON MANGILLI.

I SHOULD be almost inclined to go a little further than the writer of the note in praise of *Guillon Mangilli*, and to say that if restricted to one variety this would be my selection, for so far as pot work is concerned alike for summer and winter flowering nothing could be better either in habit or freedom of bloom. It possesses the merit of growing vigorously and yet without coarseness; in fact, there is the same difference between this and many other varieties grown in pots as between a very short and a long-jointed Vine. I want a fair amount of zonals in pots to stand in different positions outside during the summer months, and having decided to rely on a less number of large plants rather than a lot of smaller ones, picked out early in the spring a selection from those that had done duty in 5-inch pots through the winter months, headed back the ragged growth a little, and placed two of each variety into a 14-inch pot, potting firmly in the best loam at my disposal (which, by the way, is rather on the sandy side), the only other material being a couple of inches of dry cow manure over the few crocks used. I find this cow manure a great help; it has become thoroughly saturated by the time the roots find their way down and acts as a rare stimulant. Liquid cow manure is also the best stimulant to use during hot, dry weather when the plants are in full vigour and flowering well. The sorts used were *Raspail*, *Guillon Mangilli*, and *Mme. Charotte* among the doubles, *Niagara*, *Duchess of Marlborough*, *Lord Aberdeen*, *Majestic*, and *Lady Carlisle* in the round-flowered singles, with *Mrs. Hayes*, *Aurore Boreale*, and *Gloire Lyonnaise* in the big nosegay section. The plants were staked enough to draw them over the pots, at the same time avoiding any formality, and all did well, the largest of them being at the end of the season quite 3 feet high and as much in diameter, but, as I have said, *Guillon Mangilli* was an easy first. They have found a home in the *Camellia* house for the winter months, and most of them are still in flower.—E. BURRELL.

—The note concerning this double-flowered *Pelargonium* on p. 390 shows well that a good variety will hold its own for years, though swarms of so-called improvements may be put into circulation during that time. I was very pleased to read the article in question, the whole of which I fully agree with. My first plant of it was obtained from the Continent as long ago as 1875, this being, I think, the year in which it was sent out.—H. P.

Hæmanthus natalensis.—I have *Hæmanthus natalensis* and *H. tigrinus* dry after a good growth and just now starting. Should they be kept dry or watered? House rather cold.—T. NISBET.

* * The two species of *Hæmanthus* above referred to should be kept moderately moist in order to perfect their growth, as the dormant period is now past, and they will continue to grow throughout the winter and spring months, after which they go to rest. At the same time, as the house is rather cold particular care must be taken not to over-water them, though, of course, they will need more when in full growth than when just starting.—ED.

Nerine elegans alba.—It is now five years since a first-class certificate was awarded by the Royal Horticultural Society to this *Nerine*, which is, as far as I know, the only really white-flowered kind of all the numerous forms in cultivation. A specimen now in full bloom has a flower-scape about 18 inches high, the head of blossom being just over 6 inches across, and consisting of seven-

teen flowers, each 2 inches or so in diameter. The six segments are not disposed in a regular manner, being arranged equidistant from each other on the upper half, thus giving the appearance of a lip being wanting. The segments, which are about one-third of an inch wide and more or less undulated, are pure white, though in the bud state the flowers are slightly tinged with green. The leaves are from a foot to 18 inches long and about three-quarters of an inch in width. They have none of the glaucous character common to *N. curvifolia* (Fothergilli), but are of a uniform rich bright green tint.—H. P.

Hoya carnosa.—In case anyone is inclined to try the experiment of exposing this plant to frost, as described by "L. P.," I should like to say that I had a fine specimen killed by the breaking down of a boiler a few years since, though the frost was certainly not sufficient to freeze the compost hard as described on p. 390. I should think, too, in penning this note your correspondent had in mind plants that had filled their allotted space and were not required to grow any further. As for a plant that was old enough to flower fifteen years ago being still in a 9-inch pot, it is on the face of it obvious that it has not been "well grown"—that is to say, it has not been cultivated—or otherwise the roots would certainly require more space. The fact of the plant flowering annually does not prove it to be well grown, and I cannot understand why, even if the space is restricted, the plant is kept in so small a receptacle. Had I a similar plant to deal with, I should give it more room at the roots and cut away some of the older wood, as flower-spikes fifteen years old—and by the same token foliage of the same age—are not by any means as pretty or bright as those produced by young wood which would be laid in to fill up the place of old. I quite agree with "L. P." that it is often seen in a flowerless state through being too much excited, but it is not necessary to go to exactly opposite conditions and bring it to a state of semi-starvation.

FLOWER GARDEN.

JULY FLOWERS AT EXETER.

JULY and August, as a rule, are dull months with regard to most hardy flowers. The early things are over and the late flowers have not yet commenced to bloom. Doubly welcome, therefore, are flowers that bridge over the gap and look bright and cheerful during the months mentioned. In the well-known nurseries of Messrs. R. Veitch and Son, Exeter, there is a border devoted to alpine and all kinds of choice hardy plants, and I will here mention a few of the most important varieties which bloomed in July and August. *Senecio Greyi* (see illustration) when photographed was a mass of golden-yellow flowers. So far the plant has stood two winters without protection, and it forms at present a neat little bush about 18 inches through. The flowers are each about the size of a shilling, with golden-yellow ray florets and a central disc of darker yellow; they have an involucre of woolly bracts, and are arranged in large corymbs. The leaves, which are densely crowded and very thick and leathery, are thickly covered with a grey pubescence, reminding one of *Eleagnus*. *Oenothera rosea* is very ornamental when covering the border with long prostrate shoots decked with bright rose-coloured flowers quite the size of a five shilling-piece. It does not seem to mind the heavy soil nor the sunny exposed position in which it is flourishing. *Convolvulus althæoides* is a gem, flowering profusely, and in its season is literally covered with bright rosy pink flowers fully 2 inches across. The leaves are covered

with minute silvery hairs, giving a somewhat glaucous hue to the whole plant. To be seen at its best *Convolvulus althæoides* requires support. Rambling as it pleases over a few branches or Pea sticks it makes a charming and graceful ornament, and will grow in any border. *Sisyrinchium striatum* has bright primrose-yellow flowers, which gradually change to a deep golden yellow towards the centre, with a small black spot towards the base of each petal. The flowers are veined with dark brown at the back and appear in whorls. The flower-spikes are 2 feet in height. The leaves resemble those of the German Iris in size and shape, but are less rigid. The plant spreads rather rapidly in moist ground, and must therefore not be planted close to smaller plants, which it would destroy. *Asclepias fascicularis* is a robust perennial 2½ feet to 3 feet high. The leaves are opposite and conspicuous for their size, being about 5 inches to 6 inches long and 3 inches to 4 inches wide. They have a very distinct mid-

Heath-like, and resembles that of *Linum alpinum*. It is an elegant little bush 18 inches high and 2 feet in diameter. Why is not *Dianthus Atkinsoni* more extensively grown? The large flowers this year have excelled themselves—perhaps owing to the brilliant sunshine—both in size and colour. A deeper or more brilliant blood-red-carmine colour cannot be imagined, and as it is now fairly plentiful, this gem should be grown in every garden. *Silene maritima rosea*, a charming rock plant, flowering in July, is 4 inches to 6 inches high, and has blush-white petals diffused with delicate pink, and veined with purplish rose, especially on the reverse side, the inflated calyx veined with purple. *Dianthus versicolor* forms here a little bush 12 inches high and 20 inches through. The flowers, which are very numerous, are deeply fringed and of a bright rose colour, covered almost completely with dark crimson spots. Towards the base of each petal the spots are larger and of a deep magenta colour, forming a complete ring. The calyx is dark purplish brown. It is altogether a delightful rock plant of easy culture. *Onosma stellulatum* resembles *O. tauricum*, but the flowers are of a paler sulphur colour. The leaves, too, differ, being shorter and broader and covered with stiff hairs, especially near the margin.

F. W. MEYER.

Elmside, Exeter.

Sowing Sweet Peas in autumn.

—Last year a correspondent expressed surprise at some Sweet Peas sown late in summer with a view to securing bloom in autumn, but failing to flower at that season, standing the winter and producing a lot of flowers in early summer. The winter was mild and the situation sheltered. Some time ago I was told by a florist that Sweet Peas if sown in autumn, at the same time and in the same way as the early dwarf cooking varieties, will stand the winter and bloom in May or June. I have never tried it, but believe they would if sown in a warm, sheltered position and light, well-drained soil, and protected from cold, cutting winds in spring by means of small evergreen branches. Sweet Peas being such favourites where cut flowers are in demand, it would pay for the trouble involved even if this first batch were somewhat dwarfer and not quite so well flowered as those from spring sowings. Sparrows would have to be watched for at this season, as they will devour the flowering as well as the cooking Peas.

—J. C.

Hollyhocks.—Hollyhocks are too much used for planting at the back of shrubbery and hardy flower borders and not sufficiently for furnishing separate beds. Nothing, however, has a finer effect in autumn than a group of well-grown and flowered Hollyhocks of choice varieties in an isolated position on a well-kept lawn. They show themselves to the best advantage in a large round bed, stout green-painted stakes being used to keep each plant erect. The weakly Pea stick-like supports often seen are quite useless for tall, heavy specimens during high winds. Few now care to depend on named varieties, these being so liable to disease, but nothing finer can be wished than the fine strains now obtainable from seed. I think it is best to sow in a cold frame in early summer, transplanting when fit to some sheltered nook where, if needful, slight protection can be given in winter. Final transplanting can then be done the following spring and grand spikes secured in autumn. Hollyhocks are not the best



Senecio Greyi. From a photograph sent by Mr. F. W. Meyer, Exeter.

rib, and are somewhat downy at the back, with entire margins. From the axils of the upper leaves spring umbels of numerous fragrant flowers on pedicels each 1½ inches in length. The flowers are small and have pink petals folded in a peculiar manner. The calyces appear completely inverted, and, having green sepals striped with purple, give the flower a somewhat inconspicuous appearance. *Linaria Cavanillesi*, with its Thyme-like foliage and its neat spreading habit, has flowered all the summer, and is certainly a most attractive plant where it can spread over stones and show its pretty purplish blue flowers with their deep yellow throat. *Linum salsaloides* somewhat resembles *Linum monogynum*, but the petals are rounder in shape and more reflexed. On closer examination it will also be found that the flowers are not pure white, but striped with minute purple veins, which are specially noticeable at the back. The foliage, too, is more

of things to lift; therefore plenty of room should be allowed at the first pricking out. Few things are grosser feeders; therefore give a rich larder, mulch in summer, and feed with liquid manure.—
NORWICH.

LOBELIA FULGENS QUEEN VICTORIA FROM SEED.

I HAVE grown this Lobelia for many years, considering it one of the very best border plants. For many years I adopted the usual method of increasing the stock by division in autumn or spring with more or less satisfaction. I must confess, however, the results often were not so good as I wished. I observed as time went on the stock got weaker. When the plants bloomed early they formed a lot of seed-pods, although I never have been successful in ripening the seed. This I attribute to the want of heat at the ripening time. Some fifteen to twenty years ago I resolved to try raising young stock from seed. Accordingly I obtained a packet of seed. This I sowed in February in a pan, thoroughly soaking the soil before sowing the seed. The surface must be smooth and even, as the seed is very small. When sown, a light sprinkling of very fine soil or sand should be put over it and the pan placed in a close frame. When the plants are strong enough they are pricked off into boxes 3 inches to 4 inches deep in good holding soil or on a sheltered border, where they are allowed to remain till the following spring. If they have made good progress, they will be good strong plants by this time. I prefer the box system, as in this way the plants are easily managed when very small. In April I remove these to their blooming quarters, planting them thinly. I plant amongst them Tufted Pansies, dwarf white Antirrhinums, or something that comes into bloom early and covers the ground; this produces an effective bed over a long time. The plants are often allowed to winter in this position. When the beds are wanted the clumps are removed in the fall and replanted in a sheltered position in the kitchen garden. In the following spring these are divided and used as before. I sow seed every year or two to keep up the stock, and in this way I obtain the best results. When grown thus they often attain a height of 5 feet or 6 feet and bloom, as this year, well into the autumn.

JOHN CROOK.

Forde Abbey.

CARPET PLANTS FOR SHRUB BEDS.

OUTLYING beds in different situations in the pleasure grounds already partially filled with small specimen shrubs or conifers may receive at this season a carpet of some appropriate plant where portions of the soil are at present bare. Take Hollies, for instance. I have seen large beds filled with small specimens of the gold and silver forms, which were kept by careful annual pruning to a height and base diameter of about 4 feet, and although very nice in their way, it struck me the effect would have been much more pleasing if every other plant were removed and the spaces filled in with some nicely contrasting plant as *Chionodoxa sardensis*, *C. Tmolusi*, or some of the best of the *Muscari*. If a green carpet is considered advisable throughout the year, the bulbs could be planted sparingly and the space afterwards filled in with one of the green *Sedums*. If it is considered advisable to strengthen the stock of Daffodils, favourite varieties can be planted in the same way; indeed, all bulbs look well when associated with different forms of tree and shrub life. I think the wild forms never show to better advantage than in some dell in a wood that has been partly cleared of trees and undergrowth, and they seem to flourish exceedingly in

such situations, whether the growth is slight and the flowers quiet in their beauty, as in the Dog's-tooth Violet and the Wood Anemone, or vigorous in foliage and massive and glowing in flower, as in the old double Daffodil. It is not, of course, necessary to confine oneself to bulbs or to very dwarf things for the purpose under consideration.

Among other plants that I have used with excellent results are Pinks and the dwarfier forms of *Geum*, *Linaria*, and *Potentilla*, and where beds are of large size, alternate patches of Albino Pink and *Geum coccineum* may be tried. The last-named should be in every collection of hardy plants; it stands a long time alike on the open border and in water. In using dwarf plants, especially in considerable numbers, preference should always be given to those things that are pleasing in flower as well as foliage. A mass of variegated grass, for instance, as *Dactylis glomerata*, is not to be compared to similar quantities of Pinks or *Linaria repens* Snowflake. If it is decided to utilise Tufted Pansies—and where they do well there are no better carpet plants—partially shaded and fairly moist situations, with rather a heavy soil, should be chosen, or, given seasons like that of 1898, they will present a pitiable appearance before the summer is over. I fear on light soils the stock is likely to run very short another season, for not only were hardly any cuttings available, but old plants are very weakly, and splitting up with any hope of success is hardly to be recommended until growth commences in spring.

E. BURRELL.

NOTES ON PEAS.

OF Peas I find none to beat Duchess of Edinburgh, the best Pea for cropping and flavour. It lasts longer in bearing and retains its flavour and sweetness longer than any other that ever I saw. I have grown it for about fourteen years. I grow President Garfield, Satisfaction, Magnum Bonum, Perfection Marrowfat, Matchless, Maincrop, and Sutton's Royal Jubilee, all good midseason kinds. Latest of All I sow about the middle of May for the latest crop.—J. AINEY, *Orton Hall, Tebay, Westmoreland*.

—As early varieties I prefer William I. Improved and Chelsea Gem; midseason sorts, Critic, Autocrat, Veitch's Perfection, and Duke of Albany; late sorts, Walker's Perpetual Bearer, Ne Plus Ultra and a variety named Downie's Amateur. A row of 40 yards long sown on June 24, 1897, of the last variety kept up a good supply of Peas till the second week in November. The first week in June is quite late enough to sow the latest Peas, as a rule.—W. COMFORT, *Kylemore Castle, Co. Galway*.

—I consider some of the old varieties as good as any. For early use I sow William I.; maincrop, Telephone and Duke of Albany; late, Walker's Perpetual Bearer, which I always sow in the latter end of May.—GEORGE CLARK, *Walcot Gardens, Lydbury North, Salop*.

—I have found that Early Giant, May Queen, Empress of India and William Hurst are good early Peas, and Stratagem, Sutton's Invincible, Maincrop, Satisfaction, and Magnum Bonum good midseason varieties. Autocrat, Veitch's Perfection and Ne Plus Ultra are good late Peas of delicious flavour and heavy croppers. I sow the first week in June for autumn supply.—W. T. MOBSBY, *Yate House, Gloucester*.

—The best early Peas are Chelsea Gem, William Hurst; midseason, May Queen, Duke of Albany, Magnum Bonum, and Improved Dr. Maclean; late autumn, Autocrat, and Veitch's Perfection. I find the best time to sow for an autumn supply in this district is the second week in June.—E. SEMPER, *Scarby Hall, Scarby, Lincoln*.

—May Queen is a grand first early Pea. Defiance, a second early, is a fine cropper and of grand quality. Sharpe's Queen, an old favourite, is truly a grand Pea. Duke of Albany still holds its own as the best main crop. Success appears to be a fine cropping Pea. The best early Pea I have grown is May Queen, beating the well-

known American Wonder by a week. Of midseason varieties, Duke of Albany and Sharpe's Queen stand head and shoulders above all others. Veitch's Perfection and Sutton's Late Queen, sown about the middle of May, and May Queen, sown from June 1 to 15, will keep up a supply to the end of October.—R. GRICOR, *Glenherrie, N.B.*

—The earliest and best with me is Exonian. It is a splendid cropper and of excellent quality. For second and general crop, Senator and Veitch's Perfection are both dwarf and good croppers and of good quality. Of tall varieties, Dadd's Prolific and Goldfinder are both excellent for crop and quality. For late crop I gather seed of the early varieties of the same season. Nothing succeeds better with me than Veitch's First Early sown the first or second week in July.—JOHN D. NANSCAWEN, *Whiteway, Chudleigh, Devon*.

—The best early Peas which I grow and which I always find satisfactory, both in produce and flavour, are Veitch's Chelsea Gem and William I.; for second crop, Daisy, Duke of Albany, Dr. Maclean, and Maclean's Best of All. For late and autumn use I find the best are British Queen and Ne Plus Ultra. For autumn use the Peas are sown about the middle of June. If later here they get ruined with mildew.—F. FOAKES, *The Gardens, Twinn Minster House, Blandford*.

—I do not grow a large number of varieties of Peas, but the undermentioned I find do very well on this light soil: Exonian, Gradus, Supreme, Duke of Albany, Model, Telegraph, Danby Stratagem, Autocrat, and Ne Plus Ultra, sown in the order given. I grow other sorts, but these I find give the best results. For early work on south borders I grow Exonian, which always does well and gives satisfaction at the table, being nice and green and of fair quality for an early Pea. At the same time in the open I sow Gradus and Supreme, which come in well after Exonian. For midseason I follow on with Duke of Albany, Model, Telegraph, Danby Stratagem, Autocrat, and Ne Plus Ultra. To give a good supply during late autumn I have had nothing to beat a good strain of Ne Plus Ultra. When plenty of room can be had, taking into account productiveness and good quality, I sow the last lot in trenches the first and second weeks in June.—H. FOLKE, *Gaddesden Place, Hemel Hempstead, Herts*.

—For early use I prefer Exonian, William I., Veitch's Selected, and Chelsea Gem; midseason and general crops, Maclean's Wonderful, Veitch's Perfection, Advancer, Sharpe's Queen, and Dr. Maclean, and late kinds, Maclean's Best of All, Veitch's Chelonian, and Ne Plus Ultra. The last named, sown about May 31, I find by far the best for the latest crop. If severe frost does not come I can gather till the end of October.—J. RAINBOW, *Boughton Hall, Yorks*.

—After a good many years of experience in trying a number of kinds of Peas, I have lately gone more in for Ne Plus Ultra as a main season Pea. I always raise a batch of early William I. under glass at the end of February. These I plant out about March 10. At the same time I sow a lot of William I. and Ne Plus Ultra, and when these are coming up I sow another lot of Ne Plus Ultra, and so on with Ne Plus Ultra till the beginning of June. The result of this is splendid Peas that have never been found fault with, and which continue to yield until the frost comes.—R. MCKELLAR, *Abney Hall, Chislehurst*.

—I consider William I. still the best first early Pea. Sutton's Ringleader sown at the same time comes in a few days later, and is a useful first early variety. Bountiful sown at the same time is about a week or ten days later, and is a good cropping useful variety. I usually sow my first early Peas under glass about the middle of January and transplant in March. I sow out of doors about the middle of February. For midseason Peas I sow the first week in April and the first week in May. Duke of Albany is a useful Pea, and Sutton's Peerless and Matchless Marrow Peas are all excellent for midseason use. Maincrop is a good second early Pea. For late

crop the Ne Plus Ultra section are the best, including British Queen. Autocrat is a very fine late Pea of medium height. I never sow dwarf Peas, as I consider 3 feet 6 inches to 4 feet quite dwarf enough for a good crop of Peas. Autocrat and Ne Plus Ultra, or Reading Giant I always sow on June 18, and I never fail to get a good crop as late as Peas can be had in October and occasionally November.—R. MAHER, *Yattendon Court, Newbury*.

The varieties I grow for early supply and which have given general satisfaction are Extra Early for the first, and Chelsea Gem, Earliest Marrow, Early Giant, and Gladiator to follow on, with Veitch's Perfection, Duke of Albany, Exhibition Marrow, and Chelsonian, which I consider one of the very best Peas for flavour and cropping combined that has ever been sent out. I have given up growing Ne Plus Ultra, being convinced after repeated trials that Chelsonian is far the better. For late crops, Autocrat, Late Queen, Sturdy, and Dwarf Marrow if sown from June 1 to 20 will give a fair supply till late in the autumn.—J. BOWERMAN, *Hackwood Park, Basingstoke*.

My best Pea for earliest use out of many varieties tried is May Queen. Giant was excellent with splendid green pods and very sweet peas. Dr. Maclean is still my best to follow. Sown at the same time as Ne Plus Ultra, it comes in in nice time to be over for the later variety to follow. Veitch's Perfection is of good constitution and always does well. Telephone is good, but I find Jubilee better, as it is not so tall, with splendid peas of nice marrow flavour. Satisfaction will become a standing variety, being a good cropper and with a fine constitution. Duke of Albany and Sutton's Giant are both good, followed by Ne Plus Ultra. Autocrat, and American Wonder sown the first week in July will keep up the supply till late in the autumn.—S. G. HILLIER, *Clyffe Hall Gardens*.

Early Peas are not much grown. Of midseason kinds, Carter's Stratagem, Veitch's Perfection, and Maclean's Best of All are what I usually grow. Sharpe's Queen and Walker's Perpetual Bearer do very well with me as late kinds. I consider the best time to sow Peas for an autumn supply to be from about June 15 to the first week in July.—T. CRAWFORD, *Bosahan, St. Martin's, Cornwall*.

The best Peas here for cropping and flavour are Autocrat, Ne Plus Ultra, Veitch's Perfection, Dr. Maclean and Exonian. The best early Pea here is Exonian; the best midseason kinds, Ne Plus Ultra, Veitch's Perfection and Autocrat. The best kinds to yield a supply into the late autumn are Autocrat and Dr.

Maclean. As a rule I sow in succession from January to June 26.—A. BLACK, *Carton, Maynooth, Co. Kildare*.

Taking cropping and flavour into consideration, I find the Peas that do best here are Dr. Maclean, Hair's Dwarf Mammoth, Exonian, Abbot of Bardney, Stratagem, Veitch's Perfection, Duchess, Veitch's Maincrop and Autocrat. For a number of years I have grown Veitch's Selected Early Pea for first crop, generally sowing it in January or February as weather permits. Gradus makes a good succession, followed by



Vitis amurensis. (See p. 425.)

Dr. Maclean, Exonian, Abbot of Bardney and Hair's Mammoth. The best midseason Peas here I find are Veitch's Perfection, Autocrat, Veitch's Maincrop and Duchess. I generally sow in the first fortnight of June for the last crop, the varieties used being British Queen, Autocrat and Ne Plus Ultra.—J. GEMMELL, *Ladykirk Gardens, Berwick, N.B.*

The best Pea for this garden I consider is Duke of Albany. It is prolific, handsome, and has a very rich flavour. I am not in a position to say anything about new Peas, as I have not tried any this season. I depend on about four varieties, which I know to be good. My earliest is

Chelsea Gem, quickly followed by William I., and for midseason I find Duke of Albany and a selected strain of Ne Plus Ultra do well year after year. To follow Ne Plus Ultra I sow William I. again. I usually get good results from this sown at the end of July. I also grow Autocrat for a late crop. This is sown about the middle of July.—H. J. HARVEY, *Frampton Court Gardens, Dorchester*.

The varieties I consider best for the locality amongst the earliest are Veitch's Early Selected and Ringleader, to be followed by William I. and Exonian. Veitch's Earliest Marrow is an excellent Pea, and Laxton's Gradus cannot be too largely grown on account of its fine Marrowfat qualities combined with earliness. My best varieties, taking into consideration cropping and table qualities, are Duke of Albany and Veitch's Maincrop, which if sown at intervals give a good supply until the end of the summer. With these might be mentioned Autocrat and Stourbridge Marrow.—THOS. BENNETT, *Sharlington Hall*.

The best earliest are William I. and Day's Early Sunrise. The latter is a heavy cropper, producing large, well-filled pods and Peas of fine flavour; the best midseason, Telephone, Duchess, and Duke of Albany. The first-named is much in request and extensively grown. Of late varieties, Ne Plus Ultra, British Queen, Champion of England, and Emperor of the Marrows are the best. The above four varieties, if sown from May 5 to May 18, will afford a regular supply of useful Peas well through autumn. A sowing of an early sort made during the first week of June will give a supply till the late autumn.—S. LAIRD, *Kinnaird Castle, Brechin, N.B.*

In reference to Pea growing, I have now had forty-five years' experience in the Sherborne Castle Gardens, and have devoted a deal of time to the trials of new Peas as they were sent out. Some turned out to be an improvement on older varieties, some were not. I think the very best that has come under my notice as an early variety is Exonian, and that will be my early Pea for the future. It is a wrinkled variety, fairly sweet, and a good cropper. I sow it at intervals of ten days from about the middle of February up to the end of March. Then I commence with Chelsonian, which is also a good cropper, very sweet, and, what is still better, it soon fills the dish. It has a good hardy constitution, and suits our soil well. From the middle of May to the end of June I sow Ne Plus Ultra, which will take a lot of beating. Were I confined to one sort for the season I should select Chelsonian. It is not like a good many of our new varieties—all outside show and nothing inside, but a good all round Pea.—W. G. PRAGNELL, *Castle Gardens, Sherborne*.

I have tried a lot of different sorts of Peas, but the best early is William I. For midseason, Empress of India, Magnum Bonum, Eureka, and Autocrat are all good reliable sorts. For late work nothing beats Ne Plus Ultra.—W. A. MILLER, *Underby, Kirkby Lonsdale*.

I consider Duke of Albany the best Pea grown at the present time. It has been grown in these gardens, to my knowledge, for the last nine years and in the worst of seasons it always holds its own. For first earliest I like Veitch's Earliest Marrow, William Hurst, William I., and American Wonder. I always think it is best to grow several early varieties, as in some seasons some varieties will do much better than others. The best midseason varieties are Duke of Albany, Maincrop, Gladiator, and Veitch's Autocrat. Of course, some do much better in some seasons than others, but I think the above are all good sorts both for cropping and flavour. For a supply in late autumn I think Autocrat, Ne Plus Ultra, and Sturdy are good varieties. Of course, in a very hot, dry season we cannot expect Peas to do well. Some kinds of Peas do well on some ground where other kinds would not do at all. The thing is to find the kinds of Peas that suit your ground. I always sow my Peas for autumn supply about the end of May or the beginning of June. There are large quantities of Peas grown in this district

in the fields, and the variety which is a favourite with one and all is Prince of Wales.—WILLIAM CONWAY, *Abberley Hall, Stourport.*

DESTROYERS.

GARDEN FRIENDS AND FOES.

ALTHOUGH quite sure of my statement when writing of the partiality of bees for ripe fruit, I am much obliged to those readers who have corroborated the same, and in answer to one who inquires as to whether this season is exceptional in the matter, can state that it has come under my notice more or less for at least twenty-five years. I remember an old gardener, famous for his outdoor Peaches and Plums, first calling my attention to it. It happened in this instance that some hives were placed on the other side of a Plum wall, and careful watching showed the insects dropping over the top and straightway tackling the fruit. So far as the insect and animal life generally associated with gardens is concerned, I think the gardener who has made a study of his business is fairly well acquainted with their ways and habits. Our enemies alike in variety and numbers are much more numerous than our friends. Constant watchfulness, the determination to be first in the field, acting on the principle that "prevention is better than cure," is the first consideration, and this, as noted above, involves a knowledge of the habits of the enemy as well as the time and mode of attack facts sufficient to show that a good and successful gardener is of necessity a keen observer of all things around him both in the plant and animal kingdom, and those of us who may be a bit slack in this direction have it forced upon us by circumstances. It took, for instance, a couple of seasons to make me understand that the tapping of three-parts grown, green, uninviting-looking Cornish Gilliflower Apples by blackbirds was a premeditated act; but so it was, and for the last three or four years I have enclosed the tree, a large bush, with netting quite early in the season, and it has to be enclosed, too, with scrupulous care, for if a small hole is left the birds will find their way inside. In places where rats are occasionally troublesome, now that outdoor food is getting scarce, it will be well to examine carefully all outside portions of vineries with the view to prevent ingress. (I was caught napping last year, and had nearly twenty good bunches spoiled in the one night.) Any holes must be stopped with material the rats are not likely to scratch out, and if it is found necessary to leave a little air on front sashes, some perforated material must be fastened to the frames for the time being that will at once admit the air and keep out the enemy.

In no case does the anticipation of attack by an early crippling of the foe need more careful watching than with earwigs and red spider. I was called in to see some Gooseberry bushes in the early part of the present year that were reported dying, and that certainly appeared in a sorry plight. The cause was not far to seek; all the wood, with the tiny pair of leaves and the bud just emerging, was alive with red spider, that had already reduced the leaves to a state of semi-transparency. With the cause discovered, the remedy was soon provided. Instructions were given to mix certain quantities of soft soap and paraffin in hot water and apply the same in the proportion of a little over a wineglassful to three gallons of water, to wet thoroughly every portion of the wood, and to return to the attack a second and a third time. It is almost needless to say that the

remedy was effectual, and the young foliage soon grew away clean and healthy. At this season of the year, when cleaning has already commenced in fruit houses and will be continued now until the last of the Grapes are cut, the same thoroughness should characterise the proceedings. Gardeners who have the misfortune to succeed to places that have been abandoned to the tender mercies of some insect it is difficult to dislodge, as bug inside and American blight out, are well aware of this. Cleaning will specially need attention inside after the hot, dry summer in the case of thrips and red spider, which have been very numerous and committed great havoc at the time of the ripening of fruit, when syringing was no longer practicable.

E. BURRELL.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 22.

As was to be expected, there were comparatively few exhibits before the various committees, the principal flowers shown being Chrysanthemums in their varied forms, with some good varieties of Orchids.

Orchid Committee.

Awards of merit were given to the following—

CALANTHE LABROSIOR.—A hybrid raised at Burford Lodge. The parentage is unrecorded. It is remarkable for the individual size of the flowers as well as the unique colouring. The sepals are almost white, the large lip white, slightly suffused with rose, with some yellow on the disc. The plant carried a raceme upwards of 3 feet long, which bore quite two dozen flowers. It is a distinct and desirable variety. From Sir T. Lawrence, Burford Lodge, Dorking.

CYPRIPEDIUM ARGO-MORGANE.—A secondary hybrid derived from the parents indicated in the name. The dorsal sepal is white, suffused with green in the centre, and is veined from the base upwards with dark green lines. There are a few brown spots at the base. The petals have the drooping characteristics of *C. Morgane*, pale green at the base, suffused with rose-purple at the apex. The whole is thickly covered with large dark brown spots, with numerous purple hairs on the margin. The lip is brown-purple, shading to green. From Sir T. Lawrence, Bart.

DENDROBIUM FORMOSUM-LOWI.—A hybrid derived from the two species indicated in the name. The sepals are white, suffused with a peculiar buff shade of colour, the lip white in front, shading to yellow on the side lobes. Through the centre it has a suffusion of rich orange, and on either side, lines of the same colour. It has the intermediate characteristics of the two species.

Mr. J. Bradshaw, The Grange, Southgate, sent a choice group. The most prominent feature was a finely-grown plant of *Cymbidium Winnianum* (*giganteum* × *eburneum*) with nine spikes of flower. The sepals and petals are creamy white with a slight brown suffusion at the base, the lip creamy white with some yellow in the centre, and thickly covered with dark reddish brown spots. A grand dark form of *C. Tracyanum* with twelve flowers was also included. Several finely-flowered plants of *Oncidium varicosum*, a grand plant of *O. tigrinum*, several dark forms of *Cattleya labiata*, a pretty form of *C. maxima* with six flowers, and two pretty forms of *C. Mantini* (*Boweringiana* × *Dowiana*) were also shown. In *Lælio-Cattleya Apollonia* the sepals and petals are pale rose, mottled with white, the front lobe of the lip rich velvety crimson margined with white, the side lobes rose, lined with yellow and suffused with brown at the base. The plant exhibited carried a raceme of five flowers. Several finely-flowered plants of *Sophranitis grandiflora* were also included. A silver Banksian medal was awarded. **Mr. H. T. Simonds, Woodthorpe,**

Beckenham, sent a choice and interesting group, consisting of finely flowered *Oncidium varicosum*, *O. tigrinum*, *O. Forbesi*, *O. prætectum*, and *Cymbidium Tracyanum* with an eight-flowered raceme. Several finely flowered *Odontoglossum grande*, good forms of *O. crispum*, a pretty spotted form of *O. Andersonianum*, *Sophranitis grandiflora*, *Lycaste Skinneri*, and *Masdevallias* were well represented. Good forms of *Cattleya labiata* and numerous hybrid *Cypripediums* were also included. A grandly flowered plant of *Angraecum Leonis* with eight flowers was most attractive. **Mr. H. Holah, St. Mary's Nursery, Richmond,** sent a pale form of *Lycaste Skinneri*. **Messrs. J. Veitch and Sons** sent *Oncidium picturale*, resembling the natural hybrid, *O. præstans*. The sepals and petals are brown barred and mottled with brown, the broad lip yellow with prominent, raised, dark brown spots on the disc. **Sir William Marriott** sent a pale form of *Lælio-Cattleya Clonia* (*C. gigas* × *L. C. elegans*). **Sir T. Lawrence** sent a hybrid *Cypripedium* of the *C. bellatulum* section, in the way of *C. Chapmani*, with two flowers, and a remarkably fine plant of *Calanthe Bryan*, the bulb being 8 inches in circumference, the plant carrying a raceme nearly 4 feet long, covered with its white and dark purple flowers. In *Cirrhopetalum appendiculatum* the upper sepal is pale green lined with purple, the outer edges and apex covered with rich purple hairs. The lower sepals are each 6 inches long, the exterior pale green mottled with purple; the interior, which is only visible at the base, rich purple. The petals are pale green with a line of purple. **Mr. J. T. Bennett-Poë** sent cut racemes of a remarkably dark form of *Oncidium tigrinum* and a fine variety of the lovely *Aerides Lawrenceæ*, the flowers well developed and fine in colour.

Floral Committee.

A first-class certificate was awarded to—

EPIPHYLLUM TRUNCATUM PRINCESS, of which two plants were shown. The heads of growth were not especially large, but more erect than is usual with varieties of *E. truncatum*. The blossoms, which were of medium size and good form, are of a satiny white, shaded with soft salmony blush. From **Mr. William Bull, King's Road, Chelsea.**

The following received the award of merit—

CHRYSANTHEMUM MRS. BARKLEY.—A Japanese kind with very broad and stout florets broadly overlapping each other, and forming a very striking and distinct bloom. From **Lady Byron, Thrumpton Hall, Derby** (gardener, **Mr. H. Weeks**).

CHRYSANTHEMUM CHATSWORTH.—A distinct flower, the rather short florets spreading out and forming a good-sized bloom that is very full to the centre. The colour is white and deep rosy lilac. This variety was shown by **Messrs. Cannell and Sons, Swanley, Mr. Wells, Reigate, and Mr. Godfrey, Exmouth.**

CHRYSANTHEMUM GOLDEN SHOWER.—A curious development in so-called decorative kinds, the gold and chestnut florets drooping to some length, and singularly fine and thread-like in texture. From **Mr. J. H. Witty, Nunhead Cemetery.**

CHRYSANTHEMUM BEAUTY OF SHOLING.—A fine showy kind of a deep bronzy hue. From **Mr. W. Wells, Reigate.**

CHRYSANTHEMUM EARLSWOOD BEAUTY.—This is a single kind, with large spreading florets of a creamy white. From **Mr. Wells.**

CHRYSANTHEMUM DAISY BRETT.—Also a single, the flowers pure white. From **Mr. W. Wells, Reigate.**

The most noticeable group upon this occasion was the magnificent arrangement of blooms set up by **Mr. Norman Davis, Framfield, Sussex.** Not only were the blooms of the highest excellence—certainly none so good have been seen at the Drill Hall this season—but the staging and general arrangement elicited the greatest praise. There was no formal arrangement of the blooms, and thus a grand effect was secured. Many kinds

were arranged in baskets, with trails of Smilax and an occasional bit of Bracken most tastefully inserted here and there. In the baskets were Mrs. J. W. Carter, with thread-like florets; King of Plumes, rich deep golden, and such singles as Eucharis and others, spreading out in most artistic fashion. Small vases were filled with Framfield Pink and the rich yellow Clinton Chalfont, while none showed to better advantage than the late bronze Tuxedo—a very fine shade, even now none too plentiful. Massive vases of Oriental pattern were filled with grand blooms of Mrs. Hermann Kloss, a rich bronze and chestnut shade; and Richard Dean, a fine crimson, while at either end tall standard vases, the latter alone nearly 4 feet high, contained splendid blooms of Western King, very pure and superbly finished. These, save for a few twigs of bracken, were alone in these, and over all had a really fine effect. The great attraction was some six dozen magnificent blooms of Mme. Carnot, faultless in form and finish. These were staged in the usual stands at intervals in dozens round the group, and attracted the attention of all. Equally good were some of G. J. Warren, the yellow sport from the last named, the same high finish pervading all. Beyond the grouping and arranging of the blooms, which were artistically carried out, but few plants were employed, a few light Palms, chiefly Cocos, and small Crotons and Carexes being the only things intermingling with the blooms. This highly artistic arrangement was deservedly awarded the society's small gold medal. A very fine mixed arrangement came from Mr. H. B. May, Edmonton, prominent in which were some forty different kinds of *Dracæna* of a useful size and well grown. Some of the most distinct were Sanderi, Jamesi, dark metallic red, very compact; Frederici, Triumphans, Orton, Renardæ, a handsome kind with broad foliage; Mme. Heine, dark green margined white, very distinct; and Lord Wolseley, a more erect-leaved kind and very showy. A pleasing lot of the newer *Aspleniums* included A. Mayi, A. Baptisti, A. ornatum, A. divergens, A. apicidens, A. Villardi, very distinct and dwarf, and A. V. facile. A nice lot of *Bouvardias* in flower included President Cleveland, Priory Beauty, Hogarth fl.-pl., Alfred Neuner, Vreelandi, &c. In another position a group of the varying forms of *Davallia fijiensis* was noted, some half-dozen of these together showing well their distinctive characters. Fine flowering examples of *Begonia Gloire de Lorraine* were very bright, and arranged amid *Adiantum Farleyense* and other choice subjects were very effective (silver-gilt Banksian medal). Mr. W. Wells, Earlswood, Redhill, staged a capital lot of *Chrysanthemums* in all the sections, very fine being John Pockett (crimson), Surpasse Amiral, Chatsworth, Mrs. White Popham (a variety that has received honours in every direction this season), Pride of Ryecroft, Le Grand Dragon (fine yellow), Lady Hanham, President Bevan, Mr. T. Carrington, Nellie Pockett, a fine white incurved Japanese, and Mrs. C. Brown, pure white, said to be a good market variety, though this is scarcely indicated in the form the petal has taken (silver Banksian medal). From Mr. T. B. Haywood, Woodhatch, Reigate (gardener, Mr. Salter) came a very fine lot of blooms, clean and fresh-looking. Among the most important were Mme. Carnot, Miss Elsie Teichmann (creamy yellow), M. Chenon de Leche, Golden Gate, Australie, John Pockett, Lady Ridgway, Mary Molyneux (a fine pink), Mme. A. Rousseau, Mme. Rozain (blush), Nellie Pockett, Chas. Davis, Vivand Morel, very fine, and C. B. Haywood, a beautiful white, being among the finest of those staged (silver Banksian medal). A capital lot of *Chrysanthemums*, embracing several sections of the flower, came from the Dowager Lady Freake, Fulwell Park, Twickenham (gardener, Mr. A. H. Rickwood). In this lot several good *Anemone* kinds were noted (silver Banksian medal). An exceptionally fine lot of incurved blooms was sent from Twyford by Mr. F. W. Flight, Cornstiles (gardener, Mr. W. Neville). This exhibit included some four dozen

blooms of the finest description, many of them faultless both in form and finish. Of this number is Ma Perfection, a really splendid white; Globe d'Or, C. H. Curtis, Major Bonafon, Topaz Orientale, Princess of Wales, Mlle. Lucie Faure and Robert Petfield (silver Banksian medal).

Messrs. Cannell and Sons, Swanley, likewise contributed a fine display of these popular flowers, large vases of decorative kinds being more noticeable here than elsewhere. Of these note should be made of Miss Harvey, a capital white and very pure; Alice Carter, Mrs. J. Carter, Pride of Ryecroft, Mrs. Filkins, Earlswood Beauty, Surpasse Amiral, Australie, Chatsworth, Autumn Glory, Mlle. Lucie Faure, and others (silver Flora medal). Mr. W. J. Godfrey, Exmouth, Devon, had a good display of mostly Japanese kinds, Lord Coleridge, yellow; King of Buffs, Miss L. D. Barry, white; Louis Dalle, a splendid bronze; Rudd's Red, M. Fatzer, golden-yellow, very fine; Georgina Pitcher, good yellow; Orphée, a Japanese *Anemone*, creamy white; Grand Mogul, &c., being among the better blooms. Mr. J. C. Garner, Rookesbury Park, Fareham (gardener, Mr. N. Molyneux), had a few blooms of Earl Crawford, lilac-blush and purple; Nellie S. Threlfall, white incurved; and Golden Gem, an incurved of fine colour, but lacking size. Lady Byron, Thrumpton Hall, Derby (gardener, Mr. H. Weeks), had a fine assortment of *Chrysanthemums*, in which the pink and lilac shades predominated. Very good were Mrs. Cursham, softest lilac; Henry Weeks, crimson and gold; Mrs. Coombes, lilac-pink; Miss Maud Douglas, rose-lilac; Little Nell, white; Edith Dashwood, blush; and Annie Prevost, rose-amaranth. Messrs. T. Cripps and Son, Tunbridge Wells, had a large half-circular group of *Poinsettias*, margined with small plants of *Eurya latifolia foliis-variegatis*. The *Poinsettias* were a highly creditable lot of plants, singularly uniform in the size and colour of the substantial and brilliant bracts. The foliage, too, was in every way excellent, and retained to quite a low level on the plants (silver Flora medal). A basket of plants in flower of *Ornithogalum lacteum* was shown by Sir Trevor Lawrence, Burford Lodge, Dorking (gardener, Mr. Bain). This is a useful species requiring only the ordinary greenhouse treatment to grow the plants successfully. The heads of blossoms are arranged in a way similar to those of *O. pyramidale*, but with larger individual pure white flowers. Messrs. Veitch and Sons, King's Road, Chelsea, had three of the hybrid *Begonias*, the result of crossing the tuberous kinds with *B. socotrana*, *B. Myra*, *B. Ensign*, and *B. Winter Cheer* resulting therefrom; the last is a semi-double and perhaps the most showy of this class at the present time. A very strange development in the single *Chrysanthemum* came from Mr. Witty, Nunhead, the florets drooping to a length of 6 inches, of which the tubular portion is fully 4 inches long and very fine, the more strap-like end extended and terminating in a twice or thrice folded curve, thus rendering it a great curiosity. *Begonia venosa*, from Brazil, was sent by Mr. Gilbert Christy. It is one of the woolly-leaved species, producing spikes of small white flowers. A strange characteristic of the kind is the skeletonised sheaths that clothe the stem and from which the leaves emerge. The species is frequently imported with collected *Orchids*, seedlings quickly appearing when the plants are placed in warmth.

Fruit Committee.

An award of merit was given to—

APPLE BALLINMORA PIPPIN.—A very nice looking dessert Apple, above medium size, and with a pleasant flavour. It is a somewhat conical fruit, with depressed eye and almost entirely covered with crimson, flesh white and firm. This should keep well and will be a favourite market fruit for its shape and splendid colour. From the Messrs. Hartland and Sons, The Lough Nurseries, Cork.

Messrs. Hartland also staged another new Apple named Ahern Beauty. This was conical

and of a deep crimson colour, not unlike Crimson Queening, but of no special quality. Mr. A. Ward, The Gardens, Stoke Edith Park, Hereford, sent a very pretty seedling Apple named Lady Emily, beautifully coloured and evidently a good keeper, but not at its best. This will be sent again in better condition. Mr. Williams, Lower Eaton Gardens, Hereford, sent a new Apple Sir Joseph, a very nice fruit, but the committee did not think it any improvement upon older well-known kinds. Mr. J. C. Tallack, Livermere Park Gardens, Bury St. Edmunds, sent a new Apple. In appearance it is not unlike King of the Pippins, but quite different in the flesh, being a softer and richer fruit. The fruits sent were past their best and the committee desired it to be sent again earlier in the season. A seedling Apple came from Mr. W. J. Clark, Manor House, Binkbrook, Market Rasen. This was doubtless the Curtil, an old variety, and one of second-rate quality. Another Apple, a supposed seedling, not unlike Lemon Pippin, but of very poor quality, came from Mr. G. Rawlins, Whitebrook, Monmouth. Some excellent Onions of a new variety called Ne Plus Ultra were sent by Mr. L. J. Dunbar, The Heath Park Nurseries, Hemel Hempstead. We have seen larger bulbs, but none of better shape and finish. Though somewhat like Ailsa Craig in shape, this variety is stated to be a much longer keeper. The committee desired that the bulbs be sent to Chiswick till next April to test their keeping properties.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE floral committee of this society held a meeting on Monday last at the Royal Aquarium, Westminster, when the chair was taken by Mr. Harman Payne. The attendance of members was slightly under the average, owing no doubt to the very bad state of the weather, but the exhibits were in general of a high order of merit.

The leading contributions came from Messrs. Cannell and Sons, Mr. H. J. Jones, Mr. W. Wells, Mr. Hy. Weeks, Mr. W. J. Godfrey, Mr. Witty, Mr. Forbes, and Mr. N. Molyneux. Mr. G. W. Forbes staged a most attractive collection of large and very pretty-looking single-flowered varieties, and from Mr. H. Weeks there came a grand display of sixty blooms of his new seedlings, to which the committee awarded a small silver medal. Mr. Witty sent some of his curious novelties from Japan, and was accorded a vote of thanks for the same.

First-class certificates were awarded to the undermentioned novelties, viz. :—

CHRYSANTHEMUM CHATSWORTH.—A colonial Japanese, often met with in excellent form during the present season. It has long drooping florets, and the colour is a fine rosy purple on a white ground. From Messrs. H. Cannell and Sons.

CHRYSANTHEMUM FLORRIE.—A single-flowered variety, of good size, having ray florets of a bright rosy pink. Shown by Mr. G. W. Forbes.

CHRYSANTHEMUM VICTORIA.—Also a single, with rather broad, long florets, blooms large; colour pale sulphur-yellow. Another of Mr. Forbes's.

CHRYSANTHEMUM EDITH DASHWOOD.—A large Japanese, with very narrow intermingling florets, forming a flower of great depth and very close in build; colour a very delicate shade of pale lilac-pink. From Mr. H. Weeks.

CHRYSANTHEMUM MRS. BERKLEY.—This is a noble solid-looking Japanese of great size. The florets are rather short, but very broad and lie close together, forming a kind of tight reflexed flower; colour bright lilac-mauve. Also from Mr. Weeks.

Other meritorious novelties were Miss Maud Douglas, of the Mrs. C. Harman-Payne type; Annie Prevost, rosy purple; Little Nell, a large white; Mrs. Combe, Mrs. Cursham and Emily Tower, all of the Japanese section. Edgar Forbes, terra-cotta; Mrs. Forbes, white; Maud Pitcher, yellow; The Sirdar, terra-cotta; Crown Jewel, golden yellow, and Mrs. J. Watson, bright

rosy pink, with a white centre, are all very attractive and promising singles of good size and of much service for cutting. New incurved comprised Earl of Crawford and Miss Nellie Threlfall, a large creamy white. A new Japanese Anemone Mrs. P. R. Dunn, colour white, was also regarded as a useful addition to its class.

Gardeners' Royal Benevolent Institution.

—We are asked to state that Mr. F. G. Treseder, chairman of the Cardiff Chrysanthemum Society, has forwarded a cheque for £5 15s., being the amount realised at a stall held at the recent Chrysanthemum exhibition at Cardiff in aid of the above institution.

NOTES OF THE WEEK.

Citrullus colocynthus (Colocynth).—Plants of this species from Tropical Africa are now bearing many ripe fruits in one of the houses in the Royal Gardens, Kew. The fruits in question are about as large again as an ordinary Orange, and being of a rich golden hue, are of a very showy character.

Datura sanguinea.—A large example of this greenhouse shrub is now flowering abundantly in the greenhouse at Kew. It is when the plants attain the dimensions of this one that flowers come abundantly. At the same time, these older, and therefore larger, examples can only be accommodated in structures of the largest size.

Jasminum grandiflorum.—Though by no means an abundant bloomer, there is ever a welcome and delightful fragrance in the vicinity of this species when a few blossoms are expanded; so few, indeed, they may scarcely be seen. Of such fragrant plants as these one never tires, the purity of the blossoms and the never-failing perfume being always admired.

Begonia Haageana.—Few of this variable genus produce larger or more conspicuous heads of blossoms than this, the flowers being of a distinct character and very showy. Externally the blooms are covered with spines, and these, coloured with a pinkish hue, are very attractive by reason of their numbers. The foliage, too, is handsome and of a free-spreading character.

Cassia marilandica.—This well-known plant, so long regarded as a greenhouse subject, and more recently as suitable for the open air, was noted lately flowering freely against a wall in what at sight did not appear the most suitable position. The clusters of yellow blossoms had, however, been numerous, and the plant withal of large size and in good health.

Primula capitata.—In one or two instances recently, seedlings of this have been inclined to bloom, which is not calculated to improve the subsequent flowering. It is unfortunate it should do this now and again, and there appears no safeguard against it. The plants are evidently influenced by the season, and it matters little whether planted out or in pots, the result is much the same.

Mandevilla suaveolens seedling.—This sweet-scented creeper has flowered beautifully on a wall with a south aspect. This is not unusual, but this year it has borne numerous seed-pods for the first time. It grows freely in light garden soil, and may be planted under a south wall in warm districts where it will hardly need protection.—W. O., *Fota*.

Calliopsis aurantiaca.—Several examples of this very singular and interesting plant have been flowering in the No. 7 range at Kew quite recently. It produces a scape at least 2 feet high from the bulb and a curiously arranged umbel of orange-gold flowers, from which the numerous stamens protrude to about three or four times the length of the corolla, the whole forming a perfectly umbellate head and of a distinct character.

Crocus sativus Haussknechti.—Among the autumn-flowering Croci this is a veritable gem, and as good as it is distinct; indeed, so far as the latter point is concerned, it is scarcely likely to become confused with any other at present in cultivation. The colour is pure white. Few kinds could have a prettier effect than this one at this season, and if planted over a thin carpet, as, for instance, some of the Arenarias, the flowers would be kept clean.

Wulfenia Amherstiana.—This is one of those singularly beautiful plants that is not at all common. The genus itself is also small, and only includes a few

kinds, *W. carinthiaca* and the above being the most important. These plants are rather partial to a cool, shady position and a peaty soil. Under these conditions the plants bloom somewhat freely, the spikes, which are each a foot or more long, bearing a great number of the rather quaint flowers of a purple-blue colour.

Yucca gloriosa flowering.—In consequence of the hot, dry summer Yuccas have flowered much more profusely than usual, and are still showing bloom-spikes, only to be destroyed by damp and frost. Some plants had as many as ten spikes of flower open at one time, reaching 5 feet above the crown of the plant. A single plant on grass has a fine effect, but the flowering mars the beauty of the plant for some years, as several shoots spring from the base of every flower-stem.—W. OSBORNE, *Fota*.

Saintpaulia ionantha.—By the amateur who desires an interesting display of flowering plants all the year round the above should be freely grown. In the matter of culture it presents but few difficulties, and by a little judicious management may be flowered continuously over a somewhat lengthened period. The plant is naturally a free and profuse bloomer, a fact that greatly enhances its value, and in the temperature of a warm greenhouse the intense violet-purple blossoms come in quick succession.

Polypodium nigrescens.—Included in the very interesting group of Ferns at the last meeting of the Royal Horticultural Society were examples of this by no means common species. In its general habit it is in every way a distinct as well as attractive Fern, the somewhat branching fronds spreading considerably and revealing a rather glossy surface. A marked feature of the kind, however, is the raised nipple-like excrescences formed by the fruiting spores, and so raised as to produce a very striking appearance.

Saxifraga apiculata.—A mild season not only gives us late flowers, but also brings into bloom considerably in advance of their normal time the plants of the early year. About November 14 the first flower of this early Saxifrage showed its sulphur-yellow petals quite opened. A slug was, however, on the watch for such a delicacy, and in a day or two cropped the flower. The plant is now bristling over with buds, and should open weather continue will have a good many open flowers in December.—S. ARNOTT.

Late Peas.—With the collapse of the Pea crop so early this autumn, I was not prepared to find such a good dish as that in a collection of vegetables staged at the Frome show quite recently. Mr. Morse, the gardener who staged them, said he had a succession of Peas this autumn until the middle of November. The variety was Autocrat and was sown about the end of June. I did not gather what were the conditions under which they were grown, but such fine Peas in the middle of November are valuable.—W. S.

Viola hederacea.—This has been giving a few of its unique flowers during the past few weeks, and very beautiful they are at this season. Little more than a couple of inches high, the rich blue and white flowers possess an exceptional charm so late in the year when even the most robust subjects are past and gone. The plant, so fresh and bright-looking now, will scarcely be able to stand the winter. In a frame that is airy and dry the plants may safely come through an ordinary winter, and care is needed to place some stock safely from the reach of frost, wet, and slugs.

Large single-flowered Chrysanthemums.—At the meeting of the National Chrysanthemum Society's floral committee on Monday last, a nice lot of seedling single-flowered sorts was shown, and, with one or two exceptions, called for special recognition. They embraced a pleasing variety of colour and the form was distinctly above the average. Florrie, a deep cerise-pink, with narrow florets of good length and yellow disc, was very taking, and Victoria, a lovely primrose-coloured flower, with long slightly drooping florets, was also good. It was mentioned that the seedlings which were sent by Mr. G. W. Forbes were from the well-known variety Purity.

Hypericum patulum.—The introduction of *Hypericum Moserianum* has done much to supersede *H. patulum* in gardens where there is not

space to grow a number of plants belonging to the same genus. It will be, I think, unfortunate if *H. patulum* should be left out in the cold by reason of the undeniable qualities of the hybrid *St. John's Wort*. As a rock garden shrub it has considerable beauty, its drooping habit of growth being very elegant. The flowers last long in bloom, through being protected from rain. In some winters *H. patulum* is killed almost to the ground here by frost, but in mild seasons such as last it suffers little, only the immature shoots of the current year's growth being killed. *H. patulum* is still covered with flower here.—S. ARNOTT, *Carse-thorn*, by *Dumfries*, N.B.

Apple Cornish Gilliflower.—I am pleased to record this year a very fair crop of this splendid Apple taken from an old bush tree about 12 feet high and the same in diameter. Few high-class Apples are so little known, doubtless owing to the fact that its shy bearing properties have long been proverbial. I think, however, two or three trees should always be included when planting, as the connoisseur in desert Apples would place it absolutely in the front rank, and from a flavour standpoint it is quite equal to the best Ribston or Cox's Orange. It is an ugly-looking Apple in the green state, and it is, therefore, all the more strange that it should be one of the first to be attacked by birds. I can only account for this that even in this stage there is a certain aroma that attracts the birds. Not a sound Apple would ever be gathered if the tree were not carefully netted when the fruit is three parts its full size.—E. BURRELL.

Pieris mariana.—The Maryland Andromeda, or *Pieris* as it is, perhaps, more correctly called, is of high value at this season because of the brilliant blood-red of its dying leaves. This year other garden plants are much quieter in the colouring of their autumn tints than is usual here, but this *Pieris* is an exception, and has for some weeks delighted me by the glowing red of its foliage. Even if it did not give its white flowers earlier in the year it would deserve a place on account of its autumnal colour. In a partially shaded position in moist peaty soil this little North American shrub is of easy cultivation. My first acquaintance with it was made a number of years ago in a manse garden a few miles away, where it was highly prized by the worthy clergyman, who was devoted to his garden. I can well remember the pleasure with which he pointed out the Maryland Andromeda, then scarcer than it is now. Maund gives a comparatively poor plate of the flowers in the "Botanic Garden."—S. ARNOTT, *Carse-thorn*, by *Dumfries*, N.B.

A fine Yew.—Reference has been made to some famous Yews recently in THE GARDEN, particulars of which to many readers are very interesting. At Marston, near Frome, there is a fine specimen, the girth of which at 4 feet from the ground measures 27 feet 6 inches, its massive head having a spread of branch something over 50 feet. The heavy soil of Marston evidently suits this as well as some other trees of evergreen and deciduous growth. Yews being of such slow growth, a tree of such a size must have occupied its present site a long time, and at present there are no signs of decay. It would be, I presume, quite an impossibility to arrive at anything like an accurate estimate of its age from the measurements given. If the present system of naming trees by means of metallic labels had obtained years ago it would be a more easy matter to correctly estimate, but there are few instances where the record of planting is given in bygone days. How much more interest would many a lawn afford if the name and date of planting of each tree were clearly marked on a good label.—W. S.

Apple American Mother.—Amongst the many notices of Apples that have appeared in THE GARDEN I have seen no mention of the above-named variety. The present season is my first experience with it, and I am sending you a sample to test its qualities. The tree is a free grower and bearer, the fruit the same in shape

and size as Worcester Pearmain, the colour a rich apricot-yellow ground, suffused with crimson, with darker streaks of the same colour all over the sunny side; the flesh yellowish white, very crisp, juicy, and sweet, with a very pleasant aroma. Its season is about the same as that of Cox's Orange, but it keeps much better than that variety. I think it is handsomer than Worcester Pearmain and better flavoured than Cox's Orange, which is saying a great deal for any Apple, and when better known I feel confident it will become more popular than that variety.—WM. SANGWIN, *Trellick, Truro.*

* * More highly coloured samples of this Apple we have never seen, the flavour, too, being excellent, and we think quite equal to that of Cox's Orange.—ED.

Open-air Chrysanthemums.—Not for many years have we had so prolonged a display of open-air Chrysanthemums, for even now (November 21) many of the open-air blooms are better than those of the same varieties under glass. This is all the more remarkable, because early in October many that are now in full beauty looked as if they would never expand. During the prolonged drought of July, August, and September these plants drooped and looked far more dead than alive, but directly the welcome rain came at the end of September the buds began to swell and the foliage freshened up wonderfully, the exceptional mildness of the autumn enabling these plants to perfect an abundance of bloom. It would be well-nigh impossible to enumerate even the best of kinds for the open air, as all have done so well, but some of the oldest favourites like Cullingfordi, Mms. Lacroix, Val d'Andorre, Gloriosum, and others have been and still are grand. During the last few days I have cut splendid blooms of Niveum, Mrs. Canning, W. H. Lincoln, and others of the latest flowering sorts.—JAMES GROOM, *Gosport.*

The Tree Tomato.—I notice that on p. 417 "W. W." draws attention to the merits of *Cyphomandra betacea*. A fine specimen some 9 feet high, with spreading head studded in the summer with white flower-clusters, and later on with numerous orange-yellow fruit much resembling the fruit of the common Passion Flower, but rather more pointed, is indeed a noble sight, the size of its fully-developed leaves adding materially to its appearance. My impression as to the edible value of the fruit does not, however, coincide with that of "W. W.," for neither in a raw nor cooked state does it appear to me appetising, but this is merely a proof of how tastes differ. The leafage of the plant when brushed against or bruised emits a powerful and most pungent odour to which the smell of the bruised leaves of the true Tomato is comparatively pleasant. This, I think, is its chief drawback. Two large specimens were grown a couple of years since in a large Tomato house at the South Devon Fruit Farm, near Torquay, which fully proved the value of this plant as a decorative subject for culture in large glass-houses amongst other tropical or sub-tropical plants of noble habit.—S. W. F.

Frost at last.—It is, I should imagine, some years since there was such an absence of frost as occurred this autumn. Until the middle of November there was not sufficient here to check the growth and bloom of such tender plants as Dahlias; indeed, on the previous day my Dahlias were brighter and more full of flower than at any time this summer. Five degrees, however, on the 15th put an end to the flowers, and now the removal of the tubers to winter quarters can be proceeded with. The leaves of trees, particularly Elm and Oak, from the same cause are hanging late, many not showing signs of autumn colour, but remaining green. Lawns need the mowing machine to facilitate the work of sweeping, grass growing almost as freely as in summer. Some other forms of vegetation show signs of activity unusual at so late a period. Such an experience is very pleasant so far as it affects the time present, but misgivings as to future contingencies arise, for if a severe winter follows

so abnormally mild an autumn no one can anticipate future prospects. One can more easily reflect on the past and recall the great havoc committed by prolonged frost following milder times, when tender trees and vegetation became so hopelessly crippled.—W. S.

Campanula Portenschlagiana.—One of the numerous merits of Portenschlag's Bellflower is the prolonged period over which it blooms. After the first blooms are past I generally cut the plants over and have flowers until late in the year. As I write on November 21, several plants have a considerable number of blooms open and forming welcome bits of blue on the fresh green leaves. For covering crevices between the stones nothing can give more pleasure than this Campanula, especially if these crevices are vertical or horizontal openings on the face of large surfaces of rockwork. The plants cover these admirably. For old walls there is no better Campanula than this, as its long thick roots ingratiate themselves into the smallest crevice and make room for themselves. I know a greenhouse on which *C. Portenschlagiana* has completely established itself between the joints of the brickwork. It looks very pretty there, and its presence in such a position is suggestive of other uses to which it might be put. The large-flowered variety, known in the trade as the Bavarian variety—although not, so far as we know, a native of Bavaria—is superior for most purposes. *C. Portenschlagiana* seems quite as much at home on shady rockwork as on that with a sunny exposure.—S. ARNOTT.

Cephalotus follicularis (New Holland Pitcher).—It is perhaps not generally known how hardy this Pitcher plant is. It has come safely through one of the severest winters experienced during the last twenty years or so with cold frame treatment and no other protection but a mat covering the frame. It is possible, however, that the pitchers may not reach their largest size, as the plants do not start so early into growth. All the same, however, they do attain to a very considerable size and the strongest plants also flower occasionally, while the bronzed appearance of both pitchers and leaves is more usual under the cold treatment than when the plant is grown in the greenhouse. In other respects the details of culture are similar, the plant succeeding in peat and chopped Sphagnum Moss freely intermingled with broken brick rubble or the like. Firmly potted in this mixture and the plants slightly mounded to the centre they may be plunged in Moss or cocoa-nut fibre in the frame to their full depth. During winter the plants require but little attention. A very interesting group of things requiring similar care may be thus grown, such, for example, as *Dionaea muscipula*, *Sarracenia purpurea*, *Darlingtonia californica*, the more hardy Sundews and the above. To these may be added *Goodyera pubescens*, a beautifully marked plant that is not often seen.

Teucrium fruticans.—One of the most conspicuous shrubs in the rock garden at the present time is *Teucrium fruticans*, the Tree Germander. It is usually classed as a greenhouse or half-hardy shrub, but is, I believe, hardier than is generally supposed. I had no knowledge of it until rather more than two years ago, when I saw small plants in the rock garden in the Royal Botanic Gardens at Glasnevin, Dublin. At that time I was pleased with its appearance by reason of its white or silvery branches, and the green colour of the upper surface of the leaves contrasting with the white tomentum below. The blue flowers, although not conspicuous, were attractive also, so that I was glad to have the opportunity of growing this *Teucrium*, although, as I might have discovered on reference, it grows taller than I had expected. On a second inspection of the Glasnevin plants this year, I found that they had grown considerably and had formed fine bushy plants 18 inches to 2 feet high. Left uncontrolled the Tree Germander has a tendency here to throw up long branches 4 feet or so in length. I think, however, that this shrub ought to be cut back after flowering to secure bushy plants. Unless I am mistaken this is done at Glasnevin. I grow this

Teucrium on a dry, sunny position with a full south exposure, and sheltered from cold north winds by a wall. *T. fruticans* has been introduced from South Europe for about thirty years and grows readily from cuttings.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

The value of fowls' manure.—In addition to the good uses to which this valuable manure may be put, as mentioned by "Norwich" (p. 380) should be included that of applying it in a liquid state as an occasional stimulant to Vines and Peach borders. For this purpose take half a barrow-load of the manure, throw it into 100 gallons of water, and allow it to settle for a few days, when it will be ready for use. As a rule this quantity of water would not require to be further diluted before use, but much depends on the length of time the manure has been accumulating. If considered to be too strong, it can easily be toned down by the addition of more water. The value of fowls' manure is not appreciated nearly so much as it should be, and where practicable it should always be saved, placed on one side for use in the garden, and kept in a dry place until wanted.—A. W.

The weather in West Herts.—Since the 16th there has been a gradual decline in temperature. On that day the highest reading in shade was 61°, whereas to-day (23rd) the temperature has at no time risen above 39°. Then, again, on the night of the 16th the thermometer exposed on the lawn never fell lower than 47°, whereas last night the same thermometer showed 13° of frost. The latter is the greatest cold as yet recorded here during the present autumn. The underground temperatures have also fallen considerably during the week, the thermometer at 2 feet deep having fallen 4°, and that at 1 foot deep as much as 10°. At the present time the soil is about 2° warmer than is seasonable at 2 feet deep, and, on the other hand, about 3° colder than is seasonable at 1 foot deep. This is the first time for more than three months that I have had to record a ground temperature of less than average warmth. Until to-day (23rd) very little rain had fallen for nearly three weeks, and for the last week of that period no measurable quantity of rain-water has come through the soil in either percolation gauge. For a short time on the morning of the 23rd the ground was covered by snow, this being the first fall of the season. During the fortnight ending the 20th the winds remained light, the mean velocity for that period being only 3½ miles an hour. On the 22nd the sun shone brightly for 6½ hours, which is a splendid record for so late in the month. All my Dahlias were killed by the frost above-mentioned—that of the night preceding the 23rd, which is three weeks later than the average date of their destruction in the previous thirteen years, and with one exception (1894) later than in any of those years, but only four days later than last year. In 1897, however, the plants only lingered on in a crippled condition after the injuries they had received from frost on October 7 until completely destroyed, whereas this year many of them were flowering with tolerable freedom until overtaken by the frost of the 23rd inst.—E. M., *Berkhamsted.*

Pears for succession.—Will you kindly tell me the six best Pears for succession on walls?—J. L. L.
* * Louise Bonne of Jersey, Thompson's, Marie Louise, Winter Nelis, Glou Moreau, and Josephine de Malines.—ED.

Cotoneaster vulgaris.—Years ago I used to gather *Cotoneaster vulgaris* on the Great Orme's Head, but it seems now to be extinct. If any of your readers possess a plant from this locality, they would greatly oblige me by giving me a cutting.—SPENCER H. BICKHAM, *Underdown, Ledbury.*

Names of plants.—S. H. B.—*Datura ceratocaulon*.—S. F. H.—1, *Cupressus Lawsoniana*; 2, *Symphoricarpos vulgaris variegata*; 3, *Juniperus phoenicea* (?); 4, *Hypericum kalnianum*; 5, *Amelanchier vulgaris*; 6, *Ribes alpinum pumilum*; 7, *Thuopsis dolabrata*; 8, *Cupressus thyoides variegata*.

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CHRYSANTHEMUMS.

THE CHRYSANTHEMUM RUST.

IN some notes on "Chrysanthemums at Syon House" (p. 388) the writer states of the rust that "a few specks had been seen and as quickly and promptly destroyed." It would be interesting to growers if the writer of the note or Mr. Wythes himself would tell how the destruction of the pest was brought about, presuming, as I do, that it was first detected in its summer form. All the remedies I have tried have failed to arrest it in the slightest degree, and the general opinion of all growers whom I have met this autumn is that so-called remedies are useless when once the summer stage of the disease has been reached. Mr. Massee in giving the life-history of the fungus states that the summer spores are carried from one plant to another and germinate quickly. With regard to distribution in this way, it is curious to note that the spores develop on the lower leaves first, and that it is almost invariably the lower or under sides of the leaves which are worst affected. If the spores reproduce themselves so readily and are carried about so easily by one or other of the means which Mr. Massee suggests, why is it that they so very seldom germinate on the upper sides of the leaves? Now and then it is possible to find spores developing in such a position, but such cases are rare indeed when compared with the plenitude of disease spots to be found underneath the leaves. No one who knows the formation and general habit of the Chrysanthemum leaf as growing needs to be told that the under surface is by far the best protected from floating or falling spores or from any that are carried about in a casual way on the clothes of persons working among the plants. Among the plants growing here are many which have spores resting on the upper surfaces of the leaves as thickly as it is possible for them to rest, giving the whole of these plants the appearance of having been heavily dusted with snuff, yet in

but very few cases can I see any sign of growing spores on the upper surface, and where there are such to be found it is only where there are bigger patches of the rust immediately beneath them, which goes far to prove that the former are only a chance outcome of the latter.

There is nothing erratic in the progress of the disease upwards, as one would expect from floating spores; it goes steadily and surely on until the topmost leaves are reached, and this steady advance leaf by leaf, always in an upward direction, seems to point towards a probability of the disease in its summer stages being carried up in the tissues of the plant itself, and that it is not dependent on these spores for its development when once a plant has become affected. Terminal shoots, which have run up a foot or 2 feet beyond their fellows on the same plant, have no immunity from the rust, though their position keeps them well away from and above other affected shoots. I do not agree with "A. D." that salvation is to be found in dealing with the plants in a less artificial manner. Chrysanthemums have been grown for very many years under the system which now obtains, but the disease itself is new to the plant. Many cool-struck plants that have been naturally grown as bush plants without any but the simplest form of feeding, i.e., by manure water given only after the roots have filled the pots, are as badly affected as others grown for big flowers. Surely this old-fashioned method of feeding (by natural manures), which has been in vogue for generations and on pot plants of almost all kinds, need not be given up, and would hardly render the plants disease-proof if it were. I should not be surprised to see the disease develop itself on plants grown wholly outdoors at any time, as there is good authority for accepting it as a native and one that attacks native plants. The Chrysanthemum as a winter flower under glass is too valuable to be dealt with so lightly as "A. D." suggests, and it is quite certain that its culture in that way will

not be given up until it is proved that no remedy will suffice to kill out the disease. One might almost as well give up growing Potatoes because of the Peronospora.

In some earlier notes I gave a list of the worst affected plants, and said that the rust had not apparently affected the prospects of good flowers, but these varieties have since opened poorly and the loss of foliage has certainly affected them. On the other hand, it is pleasing to note that some favourite varieties have come through practically unscathed, though they have been grown side by side with others that are bad and their leaves are studded with dropped spores. I give a list of these, as it would be interesting and valuable to know whether they can be relied upon to resist the disease, or whether it is only a chance exemption here. Possibly it will be necessary to select some such for growing extensively to the exclusion of others, as in the case of some Potatoes. Khama, Mme. Ad. Chatin, Edith Tabor, Princess Maud, Richard Dean, Mme. Marius Ricoud, E. G. Hill, Miss Mary Godfrey, Matthew Hodgson, Sunstone, Western King, and Mrs. F. A. Bevan are quite free, while those only slightly affected include G. C. Schwabe, President Borel, Mrs. H. Weeks, Edwin Molyneux, Charles Shrimpton, M. Pankoucke, Charles Davis, Viviani Morel, Boule de Neige, Hairy Wonder, H. L. Sunderbruch, Mme. C. Champon, Australian Gold, and Joseph Brooks.—J. C. TALLACK.

—"A. D." is doubtless right in his contention (page 387) that naturally grown plants withstand this disease more readily than those that have been highly fed, but it is a question if he does not go too far in saying that rust does not affect plants naturally grown, but only "the pampered pets of the growers." It is quite possible—indeed, probable—that if they emerge from their greenhouse culture unaffected, the naturally grown plants will not contract the disease during their stay in the open, nor during their subsequent flowering under glass. But the mischief is often done by the introduction of contaminated cuttings that may rapidly infect their

neighbours in the early stages of their growth, when all, whether destined eventually for the production of show blooms or merely for ordinary decoration or for planting in the open, are undergoing identical treatment. The other day I heard of a case where the disease was introduced in this manner early in 1897, and proved so virulent, that all the plants were burnt and a fresh lot of cuttings procured for the present year's display. Again, however, were the germs present in the cuttings and the disease manifested itself, although by careful watching and isolation its effects were rendered less disastrous than in the preceding year.—S. W. F.

CHRYSANTHEMUMS AT FRAMFIELD.

NUMEROUS glass houses, each some three hundred feet in length, are filled with typical exhibition blooms, and when it is stated that some 12,000 plants are grown for stock and for market, readers will at once appreciate the extent of this gorgeous display. The most remarkable feature was the handsome blooms of Mme. Carnot, G. J. Warren (the yellow Mme. Carnot), and Mrs. W. Mease (the latest sport and of primrose colour). The two former predominated. Each of the flowers was up to exhibition standard, and this result was achieved by retaining second-crown buds and flowering the plants in 8-inch pots. Mr. Davis plunged his pots in the loamy soil of the greenhouse floor, and there is little doubt considerable benefit was derived by the roots in this way. A variety which it is thought will possibly rival the rich yellow form of Mme. Carnot is seen in a strong-growing Tasmanian seedling named J. R. Upton. This is a very large massive-looking flower on late buds opening in whorl form, with very long, broad, pointed florets of great substance. The growth is sturdy, and the plant is also fairly dwarf. The colour is best described as rich golden-yellow. Hundreds of plants of Western King, the pretty incurved Japanese pure white flower, were a pretty sight. W. Towers, a lovely canary-yellow Japanese with long fluted petals, was represented in handsome form, and in flowers resulting from second crown buds. This is a beautiful exhibition sort. Lady Hanham, the pretty cerise-pink and chamois sport from Vivand Morel, is of marvellous colour here, especially on late flowers, and here, too, there is at last a pure white sport from Vivand Morel, and sent out under the name of Mrs. Ritson. There is sure to be many inquiries after such an easy growing white sort, as members of this family are known to be. President Nonin does not come up to expectations of last season. Early flowers are rather thin, while late blooms are almost incurved in build. Of Chas. Davis and Vivand Morel, each by the way doing well this season, there were a goodly number, and each was represented in good form and colour. Richard Dean had been grown largely. This is best described as deep rich chestnut-crimson, with bronze reverse. First crown buds seem to suit this variety very well. Other Japanese sorts succeeding very well this season were N.C.S. Jubilee, coming very neat and even in form and of a very light silvery mauve colour; Fée du Champsaur, a fine exhibition white sort and making a grand full flower; Celeste Falconnet, a new continental sort, was seen in good form, with innumerable narrow flimsy florets of a rosy lilac colour. Joseph Chamberlain proves its value as a refined rich velvety crimson, with an effective bronze reverse. A new sort to be introduced in the spring is named John Bridgman. This is like a refined bloom of Etoile de Lyon colour, silvery pink. Numerous flowers of Lady Ridgway, a large salmon-buff incurved Japanese, were often in evidence; so, too, were Mrs. Hermann Kloos, Duke of York and John Neville. The refined blooms of Mrs. F. A. Bevan, of a silvery peach-pink colour, were much admired, as were handsome blossoms of Thos. Wilkins, Mrs. S. C. Probin and Chas. Shrimpton. In Mme. J. Chauré, another distinct acquisition to the heavy-petalled varieties, the colour on the inside of the petals is

a deep crimson-red. Madeleine Davis is one of the most refined of the Japanese flowers, of fine form, the colour being a lovely pale rosy-heliotrope on a blush ground. Chatsworth, in late flowers, was prettily striped rosy purple, in which state it is distinctly taking. Nina Dabbs is deep yellow with a greenish shade, Royal Standard being one of the best of the rich crimson sorts. The Wonderful, another of Tasmanian origin, with massive incurving petals, is not unlike the popular Mrs. C. W. Wheeler of a few years back; Miss Lallah Mirande is another large white flower, tinted heliotrope.

Incurved varieties calling for special notice are Mme. Ferlat and Mlle. Lucie Faure, both useful exhibition sorts. Decorative and market varieties are largely grown here and present a gorgeous display when massed in groups, as most of them are. Clinton Chalfont is one of the best market sorts, and although quite 5 feet high, should be useful for cutting. Tuxedo, a lovely orange-coloured bloom for December cutting, is invaluable, flowering freely and opening kindly. Frank Wilcox was noted for its bright bronzy crimson colouring. Gladys Roult is valued because of its neat medium-sized blossoms of pure white. Emily Silsbury, white; Eynsford White, still regarded as a useful white for market work; King of the Plumes; L. Canning, a good December white; Mme. Felix Perrin (syn., Framfield Pink), the best of the late-flowering rose-pink flowers; Mrs. J. Carter, a thread-petalled yellow flower; Mrs. Filkins and Silk Twist were also good. A capital batch of Anemone pompon Antonius was most striking. A pretty corner was seen in one of the houses, this being arranged with freely-flowered single varieties in a great variety of colours. For cutting they are unequalled and are deserving of extended culture. Those calling for special notice are Eucharis, a large pure white; Framfield Beauty, rich velvety crimson; Golden Star, Li Hung Chang, cherry-red on a golden yellow base; Rose Perfection, Mary Anderson, Miss Rose, and Annie Tweed, deep crimson.

Chrysanthemum Bonnie Dundee.—Apart from the value of this fine incurved variety for the exhibition board, it is equally useful for cutting. For specimen blooms, exhibitors know how constant it is, and noting last year its tendency to give a succession of side sprays, I determined to prove it as a bush plant, and it has given such a favourable account of itself, that to those who may not have treated it in the same way I would strongly recommend it. It is free in growth and flower, its colour bright, and what is important in a decorative plant, its growth is rigid, supporting the blooms without any or very little need for stakes. In season it follows the well-known and justly popular Source d'Or, a variety that has held its own for such a long time.—S.

Popular show Chrysanthemums.—In looking over the records of the principal varieties in the leading classes at the best of the exhibitions, one cannot fail to be struck with the very small number of varieties that form the growers' stock upon which to rely for the strongest thirty-six or forty-eight best Japanese blooms. Out of twelve London and provincial shows, the most frequently exhibited blooms are the under-mentioned: John Seward, Australie, Mme. Gustave Henry, M. Pankoucke, Lady Byron, Mrs. G. W. Palmer, Mme. G. Bruant, Chas. Davis, Edwin Molyneux, Mutual Friend, Phœbus, M. Chenon de Leché, Edith Tabor, G. C. Schwabe, Oceana, Simplicity, Lady Hanham, Pride of Madford, Mme. Carnot, Robt. Powell, Ella Curtis, Mrs. J. Lewis, Mrs. H. Weeks, N.C.S. Jubilee, Vivand Morel, Dorothy Seward, Lady Ridgway, Mrs. C. Harman-Payne, Elthorne Beauty, and Pride of Exmouth. No doubt some of the others not named, but which are of undoubted merit, such, for example, as G. J. Warren, Mrs. W. Mease, President Nonin, Mary Molyneux, &c., have not yet had time to get into the hands of the general body of cultivators. It is also curious to notice that a very large number of fairly well-known old

sorts have only been shown once out of the twelve opportunities thus afforded, and these varieties may be regarded as being gradually displaced by new-comers. The names of a few will suffice to show how fleeting is popular appreciation of show Chrysanthemums, for those only seen once at the shows referred to are Sunflower, President Borel, M. G. Biron, Milano, Reine d'Angleterre, Souvenir de Petit Ami, C. Shrimpton, Miss D. Shea, Mlle. M. A. de Galbert, W. Seward, Silver King, Duke of York, Etoile de Lyon, and several others less well known.—C. H. P.

CHRYSANTHEMUMS AT MAIDENHEAD.

THE Floral Nurseries, Castle Hill, Maidenhead, have been known for many years as the establishment over which the late Mr. R. Owen presided with so much credit to himself and so much appreciation on the part of those who are specially interested in the production of anything new or novel in Chrysanthemums. Mr. Owen's business is now conducted by his two sons, who seem to have inherited their father's love for the popular autumn flower. We called there a day or two ago, and were pleased to find that there were seven or eight greenhouses full of all the best of the season's novelties from various sources, home, colonial, and continental, besides large numbers of Messrs. Owen's own seedlings which are under trial, and from which it is safe to say there will be many interesting discoveries both in the incurved and Japanese sections.

These Maidenhead seedlings cannot be dealt with individually, because at present they are unnamed, but we were particularly struck with the purity of tone in several of the whites and yellows, to say nothing of the higher tones of colour such as the crimsons and purples, of which there was a goodly assortment. Of those that have been named, several have been exhibited with success and have been awarded first-class certificates, the last one being a very fine Japanese variety named Lord Cromer. It is of a rich velvety reddish crimson, with a golden reverse, and makes up a large bloom of great size. Mme. J. Tossal is a continental Japanese with very long, narrow florets twisted and curly at the tips; a hairy novelty of a pale lilac-mauve, with silvery pink reverse. Duke of Wellington belongs to the massive type of Japanese incurved; colour golden-bronze. In various parts of the establishment we came across the following, both being worthy of mention: W. Bardney, a large Japanese incurved with broad florets, of a velvety purple amaranth and silvery reverse, and Mrs. Philip Mann, a sport from Charles Davis, of a golden yellow shade flushed pale crimson. There were also some excellent examples of the big white Japanese, Mrs. H. Weeks, and several equally good ones of the deep yellow Carnot sport, called G. J. Warren. Close by is another rather striking-looking flower, named David Inglis, with medium-sized florets, colour deep crimson, with golden reverse. Lucine is a large white Japanese, very full and double, and Cameo, which is the next to attract our notice, is of a charming shade of pale flesh-pink, but belongs to the incurved type, and is a good, deep flower. In one corner stands a plant of Glory of the Pacific, a very free-flowering useful Japanese, not unlike the Christine family in form, but white, tinted lilac. This is regarded as a very useful variety for decoration or grouping.

Passing into another greenhouse where seedlings also abound are Mrs. Chas. Birch, a Japanese incurved, slightly hairy, pure glistening white; Glory of Maidenhead, a fine Japanese with flat florets of medium width, colour a peculiar shade of metallic crimson, reverse golden. The new Mary Molyneux, large pink; Mr. Chas. W. Cox, creamy white; Mrs. H. Perkins, also white; Mr. W. H. Grenfell, deep lilac-rose, are all more or less likely to attract the visitor's attention.

Among incurved, one of the most regular and perfect in form is C. S. Bates, a deeply-built flower of a pure golden chrome-yellow. In the

same section we noticed Pearl Palace, a good looking globular flower, deep and solid, colour pinkish lilac, and other flowers of fine form and good size, which are to be sent out as soon as they have been thoroughly tested and worthy of being named.

Returning to the Japanese section, we notice a few of continental origin, many of these being now past their best. Of those remaining there are some very large blooms of a new Japanese called Mme. Everard, with flat florets, white, tinted yellow in the centre; Mozart, also a Japanese of a very rich deep shade of golden yellow. The novelties introduced from Mr. Ernest Calvat are here in about the same condition as elsewhere, large, bold and effective varieties that meet with general approval. Fée du Champ-saur, a large white Japanese; Mme. Ed. Roger, the green novelty, and several more are good. Royal Standard, a dazzling crimson; Owen's Memorial, a crimson and gold Japanese of the Molyneux type, and Mrs. C. Herrin, white, are also noticeable.

NOTES AND QUESTIONS.

Chrysanthemum Golden Showers.—It is interesting to note that this curiosity secured an "award of merit" at the last meeting of the Royal Horticultural Society. The "merit" in this instance merely consists of a mass of thread-like florets drooping from the disc in an unkempt manner, and presenting no appearance of freshness, beauty, or general utility. It is only a curiosity.

Chrysanthemum.—**Anemone**—flowered pompons.—Few Chrysanthemums equal in beauty the Anemone pompons when grown in a free manner. I have now both Marie Stuart and its chaste creamy white sport Emily Rowbottom in fine flower. The plants were grown on freely all through the summer to the terminal buds, and these were only reduced slightly in number and just sufficiently to allow each blossom to develop without becoming crowded and misshapen.—C.

NOTES ON PEAS.

For flavour and cropping I prefer Earliest Marrow, Al, Champion Marrow, Autocrat, Peerless, Chelsonian, Duke of Albany, Ne Plus Ultra and Emperor of the Marrows. The best early Peas I find are Extra Early, First and Best and Al; the best midseason, Dwarf Defiance, Maincrop, Criterion, Peerless and Champion Marrow. For late autumn I like Autocrat, Chelsonian, Ne Plus Ultra and Emperor of the Marrows. For an autumn supply I sow up to the third or fourth week in June.—WM. WHITAKER, *Crewe Hall, Crewe.*

The best Peas for cropping and flavour are Sutton's Early Giant, May Queen, Telegraph, Telephone, Duke of Albany, Dickson's Champion Marrowfat and Magnum Bonum. Eureka, Autocrat, Ne Plus Ultra and Sutton's Late Queen are among the very best. I consider Early Giant the best early Pea I have yet grown. Magnum Bonum and Eureka are the best for midseason, with Autocrat, Ne Plus Ultra and Late Queen for autumn supply. The best time I find for sowing late Peas in this garden is the first week in June.—WILSON PALLISER, *The Gardens, Norton Manor.*

I generally grow Exonian as a first early, following with Gradus and Prodigy, and for midseason I sow nothing but Ne Plus Ultra, and by making successional sowings of the latter a good supply can be had into the late autumn. These varieties are in my opinion all that can be desired for a good supply of Peas. Autocrat I find a very good late Pea.—A. C. SMITH, *Edenhall Gardens, Cumberland.*

The best Peas, new or old, up to now are Duke of Albany and Duchess. The best early I consider is Wm. Hurst, and the best midseason Duke of Albany and Duchess. For late supply I like Ne Plus Ultra and Prince of Wales sown the last week in June or the first week in July.—JOHN BENNETT, *Ravenscroft Hall, Cheshire.*

The best kinds of Peas for early work I consider are First and Best, Chelsea Gem, Sut-

ton's Seedling, Harbinger, followed by Duke of Albany, Eureka, Peerless Marrowfat, Satisfaction, Dickson's Maincrop, and for late work Autocrat and Late Queen. I gathered Peas from Autocrat well into October last year, and it was sown the first week in June. In the neighbourhood Wm. Hurst is grown very largely as a first early.—J. PROCTOR, *Chippenhams Park Gardens, Soham.*

Chelsea Gem, St. Osyth, Exonian, and Early Morn are the finest early Peas. For maincrops I prefer Interest, Telephone, Sturdy, Majestic, Criterion, and Duke of Albany, and for late, Ne Plus Ultra, Chelsonian, Autocrat, and Sturdy. For latest use I grow Michaelmas. The best time to sow late Peas is from June 15 to June 30, but in very fine seasons they may be sown till July 15. I have sown Chelsea Gem as late as July 30 with success, but sown on or about June 15 there is no Pea to equal Michaelmas. I have picked very choice dishes long after Michaelmas Day.—W. A. COOK, *Compton Bassett, Wilts.*

William I. is the Pea I prefer for early use. Autocrat, to my mind, is the best Pea I grow. Maclean's Best of All is the best for late use.—WILLIAM H. BANNISTER, *Cote House, Westbury-on-Trym.*

Those who have to supply Peas every day and are sometimes at a loss to find room to sow them, should fight shy of some of the newer varieties which find favour on the exhibition table. My favourites are William I., Prince of Wales, and British Queen. I have this season grown Satisfaction, which is excellent in every way. British Queen is my favourite for autumn use. I sow it the third week in June.—J. CAMPBELL, *Mickleover Manor, Derby.*

I have grown more dwarf Peas the last few years, as I find I can get more from the same ground than from taller ones, with less trouble in sticking. They are more suitable for south borders, and cold winds do not hurt them so much. English Wonder is the best early dwarf here—a very good cropper, pods well filled, of good flavour. Chelsea Gem is not quite so early; the first pods do not fill so well as in English Wonder, but it continues bearing well for some time after English Wonder has done when both are sown together. Exonian is the best and most profitable of the tall, early sorts (3½ feet), having well-filled pods of good flavour. Sutton's Invincible is the best second early with me, coming in about a week earlier than Gradus, having good long pods well filled with large Peas of first-rate flavour. It grows only about 2 feet high. Gradus is a very fine Pea, about 3 feet high, somewhat similar to Invincible. Sutton's Peerless with me is even a better Pea than Gradus, very fine dark green pods, and Peas which fill well and are first rate in flavour. Autocrat and Omega are both excellent late Peas, and if kept well watered, will keep free from mildew. I sow the second week in June for latest, and they generally keep bearing until frost cuts them down. The above is a select list from a great number of varieties tried. Sharpe's Queen, Veitch's Perfection, Duchess of Albany, and Boston Unrivalled are all good.—J. LANSDELL, *Barkby Hall, Leicester.*

Veitch's Earliest Marrow is the best Pea I have tried for cropping, flavour, green colour when cooked, and clean, hardy growth. Harbinger follows it closely, and is excellent for crop and flavour when cooked. Duke of Albany and Criterion are good second early Peas, followed by Veitch's Maincrop and Prodigy, which are excellent in every way. Autocrat and Veitch's Perfection are grand Peas for late use. The growth is strong and free from mildew, and the crop and quality all that anyone can desire. The old Yorkshire Hero is a grand Pea for a late supply in this district. I grow it without sticks, and the yield is abundant. I consider the Peas named the best of any I have tried in this district, and I have grown a great many sorts. Alderman is a good late Pea, and so is Sharpe's Queen, sown thinly and not staked.—JOHN CHINNERY, *Nerill Court, Abergavenny.*

For early use, Exonian, Senator, and Gradus are the best. The last I find to have

very large pods containing eight to ten Peas of excellent flavour, and it is an abundant cropper. For midseason I find Telegraph, Telephone, Culverwell's Giant Marrow and Veitch's Autocrat the best, and for late use Ne Plus Ultra. I sow once a week until the first week in June. This gives a succession until the end of October in ordinary seasons. May and June sowings are always given well-manured trenches, and do not suffer from mildew.—EDWARD TATE, *Balcarras, Colinsburgh, Fiji, N.B.*

The Peas I find do best with me for first crop, and taking into account cropping and flavour, are Sangster's No. 1 and Day's Early Sunrise. The best early Peas I consider Sangster's No. 1 and William I. The best midseason Peas are Dr. Maclean, The Duchess and Telephone. The best autumn Peas are Veitch's Perfection, and Ne Plus Ultra. I have grown many others, but find these have done best with me in the north. The best time to sow Peas for an autumn supply is about the first or second week of May, but a good deal depends on the season.—WM. MACKIE, *Dunbeath Castle Gardens, Wick.*

The best Peas for cropping and flavour I consider are Early Giant, Ringleader, May Queen, Duke of Albany (the best of all Peas), Veitch's Perfection, Ne Plus Ultra, Reading Giant, and Autocrat. The best early Peas I find are Early Giant, Ringleader, May Queen and Chelsea Gem; the best midseason, Duke of Albany, Telegraph, Veitch's Perfection and Ne Plus Ultra; and the best late, Autocrat and Latest of All. I sow Peas for autumn supply the first week in June, the middle of June, and about the first week in July.—THOS. OSMAN, *Ottershaw Park Gardens, Chertsey.*

Nelson's Vanguard is an old variety, but I have not found anything to beat it. It produces an abundant crop, and the flavour is excellent. The best early Peas are Chelsea Gem and Nelson's Vanguard; the best midseason, Early Marrowfat, Dr. Maclean, and Duke of Albany; the best late kinds Ne Plus Ultra and Latest of All. I find by sowing Latest of All about the middle of June I can gather good Peas well into the autumn.—J. CHILCOTT, *Ampton Hall, Bury St. Edmunds, Suffolk.*

The best Peas with me are First and Best, Chelsea Gem, Eureka, Autocrat, and Veitch's Perfection. My best early this year was Chelsea Gem, and the best midseason Autocrat. Veitch's Perfection sown on June 1, and a good early variety sown on June 10, generally provide the last pickings. Autocrat I have found to be the best all-round Pea for flavour, continuity, and mildew-resisting. I sow it in weekly successions from the middle of March till the middle of May.—THOS. WILSON, *Glamis Castle Gardens, Glamis, N.B.*

Taking into account cropping and flavour I have not found anything to equal Veitch's Perfection as a maincrop variety. American Wonder I grow for forcing, and William I. as the best early Pea in the open. Ne Plus Ultra is the best for late use. Walker's Perpetual Bearer is also a good late sort. About the beginning of June I consider the best time to sow for late autumn supply.—W. GRAY, *Woodstock Park, Inistoge, Kilkenny, Ireland.*

The earliest Pea with me is Chelsea Gem, but the most reliable is Earliest of All, a good cropper. For second early Veitch's Maincrop is a grand Pea and a good cropper. Dr. Maclean, Telegraph, Maclean's Wonderful, and Veitch's Perfection are all excellent. For late crops I prefer Autocrat, Stratagem, Champion of England, Maclean's Best of All, and Ne Plus Ultra. The end of June is the best time to sow for autumn picking.—M. MCINTYRE, *The Glen, Inverleithen, Peebles.*

The following kinds I consider good, and they do well with me: Early Marrow and Exonian I grow for the earliest crop, both excellent croppers and of good flavour. The best midseason Peas in my estimation are Maincrop, Criterion, Chelsonian and Goldfinder, all good croppers and of excellent flavour. The best kinds that I have found for the latest crop are Ne Plus

Ultra, Autocrat and St. Duthus. I prefer the two last named, as the taller growing kinds suffer so from the autumn gales, especially if at all exposed. I sow my latest Peas from June 20 to the first week in July. Two years ago I sowed on the 7th, and the yield was all that could be desired. Of course the season has a lot to do with it. Sometimes I gather good pods up to the end of October.—JAMES MAYNE, *Bicton Gardens, East Devon.*

—If I were confined to one kind of Pea it certainly would be the good old Ne Plus Ultra. I am aware that its great height is an objection in some gardens where sticks are a consideration, but against this must be placed its great cropping capacity, good qualities as regards flavour, and hardy constitution. There are so many fine Peas that it is difficult to mention the best half-dozen. I have, however, found the following to answer well here for several years past, and have discarded many of the more recent introductions in their favour. Dr. Maclean I stick to, and have found it most excellent in every way. This is more hardy, and can be sown at an earlier date than any other Marrow Pea I am acquainted with. Prodigy is a fine Pea, and follows Dr. Maclean. It is a fine Pea, a heavy cropper, of fine flavour, and hardy. This Pea should be better known. Autocrat, too well known to need further remarks, is a good Pea. Duke of Albany, to my mind, is the best flavoured Pea in existence. It certainly requires a genial season to bring out its good qualities. Sharpe's Queen is another fine Pea. Veitch's Main-crop is also a valuable Pea. Of late varieties I confine myself to two kinds, viz., Ne Plus Ultra and Veitch's Perfection; both are too well known to need further comments. Chelsea Gem is a valuable Pea for late autumn on account of its dwarf habit. Frames can be placed over it, and it will do well through October. June 20 is about the date I sow my latest Peas; in fact, it is useless to sow later than this date in this neighbourhood unless it be dwarf varieties, which can be protected by frames. The excessive moisture together with early frost brings on mildew and otherwise checks the filling of the pods.—THOMAS ARNOLD, *Cirencester House, Gloucester.*

ORCHIDS.

GROWING ORCHIDS IN LEAF-MOULD.

RESPECTING this interesting question, the remarks by Mr. Burbidge are well worthy of perusal. I was pleased to see that Mr. Burbidge did not do as many authorities are apt to—that is, say that because he saw Orchids doing well on the Continent when grown in leaf-soil they must necessarily do the same in this country. Before we depart from the beaten track with respect to composts for Orchids, there are several points that need consideration. The first, and undoubtedly the most important, is the length of time the plants have been grown in this country. It is a well-known fact that Orchids of all descriptions, especially those of an epiphytal character, make a fine growth and flower freely for a few seasons, no matter how they are treated with regard to compost. They seem to always push roots of greater strength than at any other time, and doubtless fresh, sweet leaf-soil would attract them, containing as it always does so much woody fibre. The question that arises is, Would the roots produced after a few years' growth in the Orchid house take so readily to the leaf-mould, and will they be as long-lived in this substance as they are in a compost that allows of a free ingress of air? Again, there are many Orchids that grow naturally in decaying material of this description, but what of those species—I think Mr. Burbidge has ere now told us of some—that

grow naturally not on the large trunks of trees where this *débris* collects, but on small twiggy branches? The roots of the latter could not be expected to push through cubic inches of more or less decayed leaf soil, and even supposing a strong individual plant did so, how would it fare when it came to the time for repotting? Would there be enough vigour stored in the plant to enable the roots to make a second attempt to push through what must be regarded as an unnatural roothold? I am personally of the opinion that they would not, and I think that Mr. Burbidge is quite right to advise growers to proceed with caution.

There is no doubt that a certain section of fleshy-rooted Orchids and others with a wiry root, like *Cœlogynes* and many of the *Lycastes*, like a proportion of nice sweet leaf soil mixed with other ingredients, but as a practical grower the absence of air theory does not commend itself to me in the least. Indeed, it seems to me that leaf-mould of good quality would allow far more air to pass than peat when this becomes in the least decomposed and close. From want of a better material we have been in the habit of using as a kind of buffer, so to speak, crocks, charcoal, and other hard material. If our continental friends have discovered a material through which air in sufficient volume for the need of Orchid roots can filter, they will have rendered a service to horticulture, for, as everyone knows, crocks are but a makeshift, and nothing like a regular state as regards moisture is possible where they are used. By all means then give the case a fair hearing, as Mr. Burbidge puts it. If there is anything in it, British Orchid growers will not be long in giving it a fair trial, and it will come into use; if it is but a fad, it will go the way of all such.

H. RICHARDS.

Cattleya labiata Lewisi.—Under this name an award of merit was given to a pretty variety of the old *C. labiata* some two years ago, and the same or a very similar kind I have noted flowering during the week. It has not the pure snowy white of the true albinos, but is certainly a good form, the sepals and petals of good substance, a purple blotch spreading over a considerable portion of the lip. The great variety of colour and form is one of the chief recommendations of *C. labiata*, in addition to which it is easily grown and free flowering.—H.

Lælia amanda.—The flowers of this species, or natural hybrid, are each about 5 inches across, pale rose on the sepals and petals, the lip lined with purple and yellow. It is not very frequently met with and should be more grown. In the usual *Cattleya* house temperature it does well, and the plants may be potted in peat and Moss when the growth is not too far advanced. This will usually be about April. Keep it well up to the light and water freely when well established. After flowering keep it dormant, but the growth must not shrivel. It is a native of Brazil, and was introduced by Mr. W. Bull.

Cœlogyne assamica.—The colour of this species is somewhat dull, but it is distinct. The sepals and petals are thin in texture, brownish, the lip marked with red. It is a native of Northern India, and was discovered by Dr. Wallich early in the present century, though probably not introduced until some years later. The plant thrives best in the intermediate house and likes a moist and airy atmosphere, with shade from bright sunshine. Rather large pots and a rough, open compost are necessary, and during the time growth is active a free supply of water is necessary. No drying off is necessary even in winter.

Calanthe Veitchi.—A handsome spike of this comes from "R. R.," the flowers very rich in colour and of good substance, showing the plant

has been well grown. It is not always wise to overgrow this *Calanthe*, as it is apt to lead to the troublesome black spotting so prevalent with this and similar plants. It should always be well ripened, so to speak, keeping the plants well apart and not syringing overhead during the later part of the season. As soon as the spikes appear at the side of the bulbs the water supply must be lessened and discontinued altogether as soon as the leaves fall.

Cypripedium Pitcherianum.—This is one of the older hybrids and has never become very well known. Its parents are good forms of *C. Harrisianum* and *C. Spicerianum*. As regards cultivation, it is one of the most free in growth, though not particularly strong, and in an intermediate or *Cattleya* house temperature there will be no difficulty in getting plenty of flowers at a dull season. In habit and general appearance it most resembles *C. Harrisianum*, but the influence of *C. Spicerianum* is plainly apparent in the fine dorsal sepal, of which the median line is rich purple. It was raised in Mr. Norman Cookson's collection about 1889.

Cymbidium giganteum.—Though reputedly shy-flowering, no Orchid blooms with me with greater regularity than this, and the plants are now very handsome, with their long arching spikes of showy flowers. The brownish red stripes on the sepals give the flower a bright appearance, and these are effectively repeated on the lip. It is a healthy-growing, vigorous species, requiring a sound, substantial compost to do it well and plenty of root moisture all the year round. Equal parts of peat fibre, loam, and chopped Moss suit it well, and the growth will be strong enough in this without the addition of manures, artificial or otherwise. A moist atmosphere in a cool, shady house and plentiful light sprinkling of the foliage in hot weather suit *C. giganteum* well.—H. R.

Cochlioda vulcanica.—This pretty and bright flowering little species is none too plentiful, for it often gives a lively bit of colour to the house during a dull season and is sure to be admired. The flowers occur on short, erect spikes, are variable in size and rosy carmine in colour. It does well in the cool house, and owing to its dwarf habit should be placed as near the light as possible in baskets or suspended pans. For compost use peat and Moss, and avoid giving too much room, as in this way the plants are easily injured. Its treatment as to watering and general routine is very similar to that advised for the New Grenadan *Odontoglossums*, excepting that the time for repotting varies, and this operation is usually carried out some time in early spring. Its habitat is high up on the volcano of Tunguragua, in Ecuador, whence, and from other localities, it has occasionally been imported to this country since 1872.

Pleione humilis.—There are few more striking bits of colour than the labellum of this pretty little Orchid, which is now coming into flower. A description fails to convey an idea of the delicate gradations of purple and rose to white. The front is ornamented with a fringe of delicate white hairs, just behind which are deep amethyst-purple spots. The one fault of *Pleiones* is they lose their foliage before or as soon as the flowers open. But if grown in small pots this defect may be easily hidden by associating the plants when in bloom with a few small Ferns, such as *Adiantums* and small *Pterises*. In some cases growers have dibbled in small Ferns with the *Pleione* bulbs at planting time, but personally I do not care for this plan, as it fines the compost down too much. *P. humilis* is best grown at the cool end of an intermediate house, in a shady corner if possible, and should be repotted in equal parts of peat fibre, loam, and chopped Moss as soon as possible after the flowers are past. After the young roots have pushed freely into the new soil, water freely until the fresh pseudo-bulbs are complete and the flower-spikes pushing. It is a variable species, a native of Sikkim, Nepal, and the Khasia Hills.

FLOWER GARDEN.

A BORDER OF MICHAELMAS DAISIES.

THE illustration shows a border of Michaelmas Daisies in our orchard, which has been specially effective this year. It faces north, and has consequently suffered less from drought than the rest of the garden. About fourteen varieties of Starworts were planted there in October, 1897, besides Oriental Poppies, border Carnations, and a few other hardy things. The photographs were taken when *A. Novæ-Angliæ roseus*, *ruber*, and *pulchellus*, *Novi-Belgii floribundus* and *laevigatus*, *A. acris*, and *Amellus bessarabicus* were all at their best. Purity was nearly over, and *A. grandiflorus* and *multiflorus* hardly yet come out. The tall *Pyreth-*

soon obtainable. One thing, however, which has rendered this variety unpopular is its tendency to splitting. In some gardens this is so bad as to render the blooms practically useless. The splitting, however, seems to be less in sandy soil, as a nurseryman near Great Yarmouth has grown it largely and the blooms have split but little. The soil of his nursery is very sandy. When in good condition *Gloire de Nancy* is unsurpassed both for wreath and bouquet-making, the flowers being extra large and the colour pure. Were it not for this pod-splitting in some soils it would have no equal as a market variety. So many fine showy Carnations are scentless, that sweet-scented varieties, if good in other respects, seem much more valuable.—NORWICH.

Ornithogalum lacteum.—As shown by Mr. Bain, gardener to Sir Trevor Lawrence, at the last meeting of the Royal Horticultural Society, this is certainly one of the most useful of the

growing in an old Italian oil jar, both in magnificent bloom; together the contrast was delightful. The winter, however, killed the *Zauschneria*, but I mean to plant it again in soil of a bank with the same combination below. *Tropæolum speciosum* also I had several times tried to grow, and failed in all situations till I got ground roots. These I planted in all sorts of situations, and they have all done well and flowered, especially where they had a wall to scramble over. What is called a hardy *Fuchsia*? When one sends for such, one gets red sorts in return, and yet I have seen large bushes in cottage gardens in Suffolk of the lighter sorts—*Rose of Castile*, I think, one is called.—H. D. PALMER, *Kerris Veau, Falmouth.*

GUNNERA MANICATA IN THE NORTH.

ALL lovers of Nature will thank you for your two recent charming illustrations of this fine plant.



Michaelmas Daisies in an orchard. From a photograph sent by Miss Minnie Kingsley, Bourne Orchard, Hertford.

rum uliginosum and *Rudbeckia Newmanii* also looked well among these.

MINNIE KINGSLEY.

Cactus Dahlias.—Mr. P. H. Mules in his list of these flowers includes some, such as *Lucius* and *Clown*, not yet in commerce. He omits several of singular beauty that are in commerce, and that next spring can be purchased at reasonable prices. Chas. Woodbridge, of almost perfect form, colour rich deep crimson, one of the very best; *Mary Service*, golden brown, shading off to heliotrope, a singularly lovely colour; *Alfred Vasey*, reddish ground, shaded amber and pink, very beautiful; *Harmony*, the very best of all the bronzy shaded varieties; *Britannia*, soft salmon-pink, very fine; and *A. J. Deal*, the best scarlet, and a great improvement on *Gloriosa* and *Juarez*, have been found in the best stands this year and have been wonderfully admired.—A. D.

Carnation Gloire de Nancy.—This large-flowering, sweet-smelling white Carnation has few rivals so far as freedom of flowering is concerned. It is also a vigorous grower, large plants being

genus. In general character and formation the plant resembles *O. pyramidale*, but the individual flowers are both larger and whiter. In fact, the blossoms are snow-white, quite devoid of the creamy tint suggested by the specific name. The inflorescence in the plants shown was of the uniform height of about 20 inches, which would be increased as the flowering extended to the tip of the closely pyramidal head. It is in the latter that a prolonged flowering may be looked for. As a pot plant it is certainly worth attention, and by growing two or more in a 6-inch pot, a good display would result. The drawback from this method is in the fact that, like *Tuberose*s, when planted in duplicate the plants rarely flower together. A better way, therefore, would be to grow the plants singly in 5-inch pots. The species is of easy culture and quite amenable to ordinary greenhouse treatment.

Plumbago Larpenæ.—I see in the last monthly part of THE GARDEN mention made of *Plumbago Larpenæ*. This has done well with me in my Suffolk garden, and has quite taken possession of a small dry rock garden, and is every September a beautiful sight. One year I had it and a large plant of *Zauschneria californica*

Most of your readers will admit that they are magnificent masses of foliage. There are few plants that produce more massive effects in less time than the *Gunneras*. A few of the giant *Tobaccos*, *Solanums*, *Rhubarbs* or the *Cow Parsnips* might yield yet even better results under stimulating conditions. But then how widely different are these from the *Gunneras*, and yet how seldom we meet with them. Two impressions, both wrong, have greatly restricted the growth of *Gunneras* in Britain—the one, that they were tender; the other, that they could only be grown to full size either in or close to water. Miss Pirie's single sentence on winter treatment and the county her fine plants hail from may do much to dispel the one. I have no doubt that far more *Gunneras* have perished from coddling and winter coverings than from cold. Neither is there any necessity to plant *Gunneras* in or close to water. They will thrive more or less as semi-aquatic plants, but grow stronger, finer still in any rich garden soil, such as may generally be found in old, rich kitchen gardens or in nests of leaf-mould, decayed roots of grasses, &c., such as may be met with ready to hand in most home woods. Miss Pirie

says emphatically of her plant it is growing in a garden and is not near water. As already said, the plant will thrive in any good garden soil rich in humus. The mere size of the leaves appeals for shelter from northern, eastern, or strong western gales. The plants cannot show to their best advantage or display their fine foliage untarnished in the teeth of our biting blasts. With the exercise of forethought, sheltered places, sunny and warm, in plenty may be found for Gunneras. I have never had their fine foliage burned by an excess of sunshine, though summer gales have at times greatly marred the beauty of their stately leaves. Some of the finest plants and groups of Gunneras I have ever seen were grown by my late friend Mr. Sheppard on the cliff on the banks of the Orwell at Wolverstone Park, near Ipswich. A tiny stream trickled past, forming a pool lower down the cliff, and here among Ferns and other fine-foliaged plants, thinly canopied with trees, the Gunneras found a home exactly to their liking. D. T. F.

BORDER POLYANTHUSES.

Few hardy flowers better repay liberal culture than the Polyanthus. Primroses may remain undisturbed for several years, and if the conditions are fairly suitable they will even increase in bloom-bearing capacity, individual specimens carrying half a hundred or more expanded flowers. Polyanthus, on the contrary, quickly lose strength, except perhaps in exceptionally favourable soils, unless annually transplanted, and the blooms are deficient in those qualities which render this spring flower so ornamental. Probably the best way to ensure a good display of this fine hardy flower is to raise a batch of young plants annually. In growth, size and quality of bloom yearling plants are much superior to older ones, that is if they are given liberal culture from the time they begin to make their growth. Polyanthus seeds germinate with remarkable freedom if sown as soon as ripe. Where a considerable quantity of plants is required, the easiest way is to sow broadcast in a frame, so that the seedlings can remain therein until the following spring, where they can be sheltered from very inclement weather. If planted out in such a young stage of growth they are likely to be cast out of the ground during the winter by frost and worms. The shelter is of course not absolutely needful, but the young plants keep their foliage better and continue to make roots all through the winter when guarded against extremes of wet and cold. When the seed crop is plentiful I sow in the open ground, leaving the young plants to take their chance. It is, however, necessary to sow as soon as the seeds are ripe, which is usually at the beginning of August. Then they come up with great freedom and the seedlings have time to get a fair hold of the ground by winter, but if sowing is deferred until the end of the month, the seedlings are liable to be disturbed by frost and worms. The ground should be well worked and surfaced with an inch or two of fine soil. Sifted refuse from the potting bench is just the thing. If the weather is dry, I give the ground a good watering before applying the fine soil, so that there is but little difficulty in keeping the seed-bed in a uniform state of moisture until germination takes place, which will be in about a month from time of sowing. If I have spare lights, I cover with them until the young plants appear, and if not, mats have to be used, in which case more attention in the matter of watering is required. If the weather is dry, a watering now and then will help to bring the young plants along, so that by the close of the autumn they will have several nice leaves and roots some 2 inches long, which will sustain them during inclement weather later on.

Additional strength will be imparted if they are given some weak liquid manure two or three times after they commence to grow freely. In February a piece of ground should be prepared by roughly digging it, and about the middle of March this may be broken down, stirred, and made fine with the fork, adding a tolerably liberal dressing of rotten manure. A north aspect is the best, as the Polyanthus loves a cool and moist atmosphere, and if the young plants get an occasional watering in dry weather, they will make good progress all through the summer, and will yield a fine show of bloom the following spring. In late autumn they may be transplanted, and will make a fine show either in borders among other hardy things, or they may be used for giving an early show in beds on the grass which are to be filled later on with tender things. In order, however, to fully realise the wonderful beauty and great worth of the Polyanthus, the plants should be flowered where they get shelter from the strong sunshine which prevails in late spring as well as from drying easterly winds. In the enjoyment of such conditions the lovely shades of yellow, maroon, crimson, &c., which characterise a good strain of this hardy flower are intensified, the trusses are of greater size, and the flowers remain in perfection very much longer than when fully exposed to parching winds and hot sunshine. There can be nothing finer in the outdoor garden in late spring than a bed of giant-flowered Polyanthus in full bloom, and as a shilling packet of seed will furnish several hundred plants, there can be no reason why the majority of gardens should not be beautified with this old garden favourite. As I remarked at the beginning of this article, the Polyanthus soon degenerates if left alone from year to year. In raising Polyanthus from seed every year or so, one is sure now and then to obtain an extra good form which he would like to keep and increase. The great enemy of the Polyanthus is red spider, and in the warmer counties of this country the foliage is sure to be so much affected, that the greater portion will die away during the summer. About the middle of August the plants should be lifted and replanted in good free soil, giving them a thorough watering should the weather prove dry. In the course of two or three weeks new roots will form, and during September young leaves will push out, so that by the close of the autumn the plants will be well established. This annual lifting and replacing in sweet, well-enriched ground exercise a stimulating effect on the plants, without which they soon come into an enfeebled state and eventually disappear. J. C.

Bulbvet.

Lilium rubellum. — The appearance of a coloured plate of this beautiful Lily in a recent issue of THE GARDEN brings to my mind the fact that last year I received two bulbs of a Lily from a gentleman residing in South China. When received they were in a very shrivelled condition, and remained dormant for such a length of time afterwards that I almost despaired of their ever growing. However, they eventually both started into growth. The stems were rather slender, but this was, no doubt, owing to their having become so shrivelled during transit. They both flowered when about 2 feet in height, the colour of the flowers being a clear rich orange, and quite unlike that of any other variety of *Lilium* growing here, the flower itself being similar in form to that of *Lilium candidum*. Two good new bulbs have been formed, and the growing and flowering of these will be watched with the greatest interest next season, as will also those of *L. rubellum*. The same gentleman also sent seeds of a very pretty trailer or climber, which flowered in a

remarkably short space of time after being raised in stove-heat. The flowers were small and of the exact representation of a five-rayed star, and rich lake in colour. After searching through various botanical works, and at last consulting Nicholson's "Botanical Dictionary," I find it is very much like *Ipomoea Quamoclit*, as both plant and form of the flower answer to the description given of this plant therein. A Japanese gentleman, when looking round at the time the plant was in flower, informed me that it grew wild in Japan as well as in China, and was greatly delighted to see it growing in England. He gave me the name it was known under in his country, but could give me no English equivalent for it. — A. W.

NOTES AND QUESTIONS.—FLOWER.

Meconopsis nepalensis. — The large rosettes of this showy Poppy that will produce their flowering-spikes during the ensuing year constitute at the present time a most attractive feature; indeed, where grouped freely together, few hardy plants have a finer winter effect than this—an effect always enhanced by a recent shower of rain, the moisture being long retained on the plants.

Hemerocallis aurantiaca major. — Like "H. S." (p. 420), I have found this magnificent Day Lily slow in coming into flower after planting. In comparing experiences with a number of other growers of *H. aurantiaca major* I have formed a pretty general consensus of opinion regarding its shyness in flowering for some time after being obtained. The flowers are so fine, that one is well repaid for waiting, but it is, nevertheless, disappointing that they do not favour us sooner. — S. ARNOTT.

THE FOG.

ON Monday, November 14, the north of London was enveloped in one of the densest fogs I have ever experienced. Fortunately, it was not of long duration, otherwise the effect must have proved most disastrous. As it was, I find it has left its marks, the glass being covered with a thick coating of black greasy secretion, necessitating the whole being washed before any sunlight can penetrate. With fine-foliaged plants it is early to say what the results will be. I find that Eucalypti standing outside have all the appearance of having been scalded, and inside there is already some indication of the mischief. I find that it is desirable to keep the temperature as low as is consistent with the safety of the various plants, giving a little moisture, for in a dry, warm atmosphere the plants absorb the fog and the poisonous gases contained therein. One instance in particular I have noticed; this was with *Begonia Gloire de Lorraine*. In a cool house the plants dropped but few flowers, while in a house where there was more heat, and consequently a drier atmosphere, nearly the whole of the flowers dropped off. I have previously noticed that where a fairly moist atmosphere is maintained the effects of fog have been far less disastrous than where more heat and less moisture have been given. Ferns do not appear to suffer much unless the fog is of long duration, and then I think it is from want of daylight more than anything else, though in some instances I have seen some mischief done. Once, after a heavy fog of several days' duration, I found some which had all the appearance of having been scorched. These were chiefly such as might be expected to resist the fog best, *Cytisium falcatum*, *Polystichum capense*, and others of similar texture being among those that suffered most, while *Gymnogrammas* and all others with a hairy surface suffered the least. I once had a good batch of *Mignonette* which promised well for bloom in November, but after a few days' fog the flower-spikes all went blind, and instead of making further advance, lateral shoots were made, and these in time tried to flower, but suffered the same fate as the terminal spikes. After various trials I have quite given up trying to flower *Mignonette* within the reach of London fogs

during the winter, though in the country I have had it as good at Christmas as at midsummer.

H.

KITCHEN GARDEN.

TOMATO GRAFTED ON POTATO.

THE two plants (Potato Pierremont Seedling and Tomato Perfection) were planted side by side in a 14-inch pot. After they had become established they were inarched in the usual way and allowed to remain for ten days, when I cut the Tomato root off, also the Potato top,

there are complaints of the plants decaying in the centre and running. The chief cause is earthing up too soon. Dryness at the roots of Celery fosters running and the crop is spoiled. I am now in the midst of earthing up the latest lot. This in the middle of November of course is somewhat unusual, but the seasons vary, and if I had done the work a month earlier, growth would have been arrested and the crop spoiled. I need Celery as late as possible. I have frequently kept it to the end of May, but to do this one must allow the growth to be fully matured and not cripple it by moulding up. I wish I was as fortunate as Mr. Tallack as regards the maggot. My plants this year suffered much and the attack

make the best use of leaves in the garden, as they are most valuable for forcing and protecting also. Endive and Lettuce, I feel sure, in winter and early spring would do much better in leaf-mould than decayed manures. The latter are often wet, cold and sodden, whereas leaves are light and porous and soon get warm when the sun shines during the day.—S. M.

Wintering Potatoes.—The very mild, open weather prevailing is already affecting Potato tubers, although kept fully exposed to light and air and as cold as possible. The exceeding dryness and warmth of the soil up to and beyond the time of lifting even late varieties are probably to some extent responsible for this rather early sprouting, and the mildness of the season is accelerating it. There is no other course, seeing that cold storage is in relation to seed Potatoes hardly practicable, but to give the tubers the very fullest exposure to light and air. When the light is abundant, shoots harden and seldom elongate. Growths of this nature often remain almost dormant for four or five months after they are an inch long. To remove them is to weaken the tuber growths, but to preserve them with all care possible is to fully utilise the tuber's strength. If the atmosphere in which seed Potatoes are kept is very dry, damping occasionally should be resorted to, but only sufficient to check shrinking, a trouble incidental to very dry stores. Where tubers are wintered in sheds, nothing is better for a floor than is one of soil, as that invariably emits some moisture. But sprouted tubers, when the stocks have been carefully preserved, necessitate later planting than is needful for tubers in an absolute condition of rest. A stout sprout on a tuber an inch long is often equivalent to three weeks' growth on a dormant tuber after planting. To keep tubers well in check the store should not only be very light and airy, but should have a temperature of about 40°, as in such state there is no inducement to premature growth. When, however, as now in November, the outside temperature reaches to 60°, it is difficult to find 40° only in any closed shed or store.—A. D.

PROTECTING BROCCOLI.

At p. 371, "A. W." writes that owing to the poor growth of Broccoli many will be too small for heeling in to protect from frost. I have some poor breadths, while others are first-rate as regards size. This is most marked in soil not dug or manured for the crop, my failures being where the plants followed early Potatoes on land that had been dug to clear the crop. In firm land there are good breadths of Broccoli, and my soil—a light soil resting on gravel—being the reverse of "A. W.'s," I never experienced such a difficulty as I did this season in getting out the winter crops. As I grow a goodly quantity of early Strawberries, and only take one crop, the land is not in bad condition. I do not dig or manure for the green crops. This system of cropping has answered so well of late years that I have followed it for Broccoli, Kales, and a late lot of Brussels Sprouts. Drills are drawn for the Broccoli, and, grown thus, the plants need less moisture and do much better in bad seasons. Protection will be needed on account of the tender growth. The growth during the past month has been most marked. This is the reason I advocate following "A. W.'s" excellent advice. Early kinds, such as Superb Early White and a late lot of Veitch's Protecting, I do not heel over but well mould up. These take little harm, as even when heeled over the tender heads suffer if the weather is severe. But there can be no question as to the value of heeling over plants for the supply from February to June, doubtless the most critical time, as if the plants or stems are injured in midwinter the supply will fail at the season named. The earlier kinds do well if the leaves are brought together at the tops and tied over the heads, and if lifted may be placed close together in sheds or the shelter of a cold frame. This will give early material that should be made the most of. Heeling over later lots is worth doing,



Tomato grafted on a Potato. From a photograph sent by Messrs. Kent and Brydon, Darlington, Durham.

leaving the two plants growing as it might be one. There was a fair crop of Potatoes, and the Tomatoes were quite a good crop, but, unfortunately, some of the fruit had been gathered when I took the photograph.

WALTER BRYDON.

Earthing up Celery.—The note at p. 370 is most opportune, as many excellent crops have been ruined by premature earthing up. Mr. Tallack in his note says that Celeries that were moulded up in the dry weather will be unsatisfactory. I fear this is often the case, as frequently

came when least expected—at the latter end of August.—G. W.

Lettuces grown in leaf-soil.—At p. 383 "J. C. T." notes the value of leaf-soil for growing winter Lettuces in. I know of nothing to equal it, as the lightness of the material, with abundant but not stagnant moisture, enables the tender plants to make a quick growth. During the last hot, dry summer months having a difficulty in keeping up a good supply of Lettuces, I, as a makeshift, sowed the seed on nearly decayed leaves. I never saw better results. The plants grew very large, and in a short time, the cool, light root-run being just the thing to promote growth. We do not

and I have in very cold districts seen dry leaves placed over the plants in severe weather and the crop saved. G. WYTHES.

MAY AND JUNE BROCCOLIS.

At p. 370, Mr. Crawford refers to successional Broccoli, and names some excellent kinds. It is a difficult matter to test varieties, as locality and soil will account for some difference in season. Among the earliest kinds Mr. Crawford notes the good qualities of Backhouse's Winter White. I am pleased to observe he has the same opinion of Snow's Winter White as I have. For years I have not been fortunate with this variety; some of the plants given good culture have turned in in March and even later, and in others the heads are not worth sending to table. For over twenty years I have grown Cattell's Eclipse for April supplies, and it is one of the hardiest Broccoli for the season named. So far I have found none to take its place, so shall continue growing this old variety. My note more concerns those kinds which give the supply in May and early June. The latter date may be thought full late, and that Cauliflowers will then be plentiful, but I never find I have too many at the season named, and the Broccoli is much valued. Model is one of the best introductions of late years, as it is a distinct variety, and its dwarfness, hardness, and good quality make it a most valuable kind. I can never keep Model after the middle of May in ordinary seasons, the soil being very light, but by lifting and placing under a wall it can be retarded for some weeks. Mr. Crawford includes Late Queen, which, like Model, is a dwarf variety and later than Model. This should find favour, as it bridges over the time between the last Broccoli and the earliest Cauliflowers. Even the latest kinds fail to come in at the time needed in May or June if sown too early. I sow Model in May and Late Queen and Monarch the first week in June, as it is much better to have a sturdy plant than a leggy one. In cold, heavy soils my advice as regards dates would not be applicable, and the cultivator would need to sow in time to secure a good plant. I have included Monarch in my list of June varieties, as in early seasons I have had the Queen all cut by the end of May, and the one named is well worth growing. Some years ago it was sent me for trial, and I have always grown it since. It is a larger variety than the Model or Late Queen, and very late, which makes it doubly valuable. Mr. Crawford does not include this in his list of kinds, but it is a favourite in the north on account of its hardness and lateness.

Doubtless there are other kinds market growers have of their own selection, but in the markets in this part of the country there is a great falling-off in the supplies after the early part of May. Large growers do not appear to favour the latest varieties, as doubtless the early Cabbage crop pushes the Broccoli on one side, but in private gardens there must be variety, and the Broccoli is always valued as green vegetables are none too plentiful at that season. May Queen is mentioned in the note referred to. Doubtless it is not unlike the Late Queen as regards lateness and quality.

G. WYTHES.

Round Potatoes.—I see by "A. D.'s" note on round Potatoes (p. 369) that he considers Reading Russet still one of the best red round Potatoes, and I am of the same opinion. The only thing is that in wet seasons disease is liable to attack it badly unless the soil is well drained

and light. It does particularly well in some gardens in Scotland. A gentleman residing in Argyleshire tells me it does better than any other sort in his district. One thing is certain, when in good condition there is not a more floury, better-flavoured Potato. Its usual size is medium, the best for the dining-room. In some quarters the white round variety Renown has gained favour, which it justly deserves, as I consider it one of the best and most reliable Potatoes introduced of late years. It is handsome in form, a mealy cooker, and abundant yielder even under field culture.—C.

Parsnips in winter.—There are various ways of protecting Parsnips from severe frosts so as to be able to get at them with ease if the open garden should be frozen hard or covered with deep snow. Some lift a quantity of roots and lay them in soil in the root shed or an ordinary out building, but the loss of moisture from the soil and exposure to draught are apt to cause the roots to shrivel and consequently lose much of their flavour. After trying various ways, I do not think there is a better plan than lifting the whole of the roots and laying them in soil, crown upwards, in a sheltered corner in the open garden, having some Bracken in readiness in case of sharp weather. The roots can then be easily got at, and in mild weather the covering removed. In this way they will keep sound and retain their flavour quite as well as if left in their growing quarters, and the ground occupied by the crop can be turned up to the weather early in the winter.—J. C.

Protecting young Cauliflower plants.—The only certain way of saving young autumn-raised Cauliflower plants through the winter is by giving frame protection. Still, if the winter is not too severe, plants will often pass through it uninjured in the seed-beds and prove very useful for early transplanting in spring. Besides pricking out the usual complement into frames in October, it is a good plan to put out a few under the shelter of a wall in some cosy nook in the same way that Cos Lettuces are treated, so that if needed some protection can be given. If a few dry leaves are placed over the plants in severe weather, they will take no harm with 10° or 12° of frost, and more still if the ground is not in a saturated condition. A better way, perhaps, of protecting these open-air plants is to insert a few stout sprigs amongst them, and then lightly shake some Bracken over them. When such plants survive the winter and are well watered previous to lifting in spring, they often turn in better and are less liable to button than frame-protected plants, as they feel the check of removal less.—NORWICH.

Brussels Sprouts.—Although the quarters devoted to this crop had no special attention, the produce is remarkably good this season, and this notwithstanding the drought. The little button-like sprouts from the lower parts of the stems are of that nice nutty flavour so much appreciated, although even yet the tops are quite blue from the drought. I rely principally upon the Exhibition strain, and like it well. The growth is not so large as that of some others, but it is hard and stands the winter well, giving a long succession of sprouts of the best quality. At Livermere recently I noted some very fine heads of Paragon, a useful kind evidently. It is a good kind either for home use or exhibition. This crop is a considerable time on the ground, but it is one of the most useful of the Brassicas. For the main-crop I sow in the open air at the end of March, and as soon as possible prick out the seedlings 4 inches apart on firmly-trodden soil. They are set out 30 inches apart both ways, and always on undug ground, this necessitating a good deal of work when the soil is hard and dry, and also in watering until they get hold, but once they make a move, growth is strong and hard, and able to withstand the most severe weather of most winters.—H. R.

Autumn planting of Potatoes.—It is surprising to find, in spite of the well-known experi-

ence of Potato growers for generations to the contrary, that some persons still plant Potato tubers in the autumn. The most tangible reason for so doing was given me recently by a gentleman, who said that he did so now because he had less time for doing so in the spring. That is hardly a sufficient reason for doing with tender roots or tubers what common experience has proved to be undesirable practice. Certainly it does occasionally happen that tubers left in the soil all the winter make very good growth the following season, and if left alone produce very good crops. But then we see in such case only those which pass the ordeal successfully and know nothing of the many that may have rotted in the ground or have been eaten by grubs or wireworms, or have had their tops destroyed by frosts in the spring. If tubers be left in the soil very deep they may escape freezing and be late in pushing tops the next year. But deep planting is productive of weakness, because the shoots have to elongate in a blanched form so materially ere they can begin to obtain chlorophyll or make leafage. But never yet has it been shown that with the most favourable conditions have autumn-planted tubers, which can but lie dormant in the ground as they would if in a dry store, proved to be more productive than have good sets properly spring-planted. In the latter case also, if not planted too early, always attended with much risk, the tubers are safe and the plants come to no injury from spring frosts.—A. D.

LATE RIPENING OF SEAKALE.

OFTEN Seakale gives trouble by starting slowly when taken up in the early autumn for forcing in the Mushroom house, and I predict that this will be experienced again this winter. With a view to getting an early maturity in a portion of the crop, I planted some on a south border in the beginning of the season, and, strange as it may seem, the plants occupying the warmer site are later in ripening than the main crop, which has a less open position. This is so pronounced that I have had to draw on the batch intended for later forcing for the earliest cutting. There has been a growth about equal in strength of leaf during the summer. I should have considered the cooler site more favourable for a continuous and steady growth during the prolonged period of summer drought, this being attended with a corresponding early ripening of the crowns and foliage. This inconvenient trait in Seakale, however, must not be taken as an indication for future plantings, because the season has had such an unfavourable bearing on many other vegetables this year. It is only another instance proving how easily one's plans may be upset, and this more particularly when artificial watering is not a provision of the garden. Until the leaves have separated from the crowns it is not advisable to lift Seakale in any quantity for early forcing, because, unless subjected to a fairly brisk heat, it will remain unmoved for a long time. While lateness in Seakale is so predominant a feature, Rhubarb seemed distinctly earlier than usual. The late autumn rain extended the growth of the Seakale no doubt, but it was too late to excite a suspicion of growth in the Rhubarb, this because the soil was dry to a great depth and the rainfall too slight to penetrate to the roots. Seakale will be in greater request this winter than for some time past judging by the shortness of supply almost everywhere of outdoor vegetables. W. S.

Vegetables at Bristol.—At the late Bristol Chrysanthemum show vegetables made a surprising display, especially when the adverse season is taken into account. In the several classes in which liberal prizes are offered there was quite a spirited competition, and although so numerous, there was scarcely a faulty dish to be found among them. There were, in spite of caterpillars, some fine Cauliflowers, Carrots, and Parsnips, models in shape and size; Potatoes perfect in shape and free from blemish of any kind. Brussels Sprouts were not so fine as is generally the case,

which is easily accounted for. Some very fine Onions were staged in one collection, and in another equally good Leeks.—W. S.

Sowing seeds in heavy soils.—A common mistake with those having a heavy retentive soil to deal with is the desire to sow vegetable seeds very early in the new year. This more often than not leads to disappointment, especially after a wet or snowy winter. Such things as Peas only lie dormant, many often rotting, or if they come through the ground, remain in a stunted condition. The blame often falls on the seedsman, when the seed may have been perfectly sound and good. Where these cold, backward borders cannot be converted into warmer and earlier ones by incorporating a sufficient bulk of light leafy, open compost, much may be done to admit of earlier sowing with safety by first turning up the soil in October or November, digging deeply, and leaving the plot in sharp ridges till say March. Then if the weather is open, select so many of the ridges at equal distances, levelling the intermediate ones. Flatten those left so as to leave them some 3 inches above the ordinary level, draw shallow drills in these, sow the Peas, and fill in with a light, somewhat leafy soil.—J. C.

LEEKS SOWN IN AUTUMN AND WINTER

I AM not an admirer of very large Leeks, as when cost of culture is considered and labour is at all scarce the huge Leeks are not at all profitable. Excellent produce may be secured by sowing at any time from now till January. I notice in the majority of market gardens the Leeks this year are mostly small, as owing to late sowing—that is, in March—and the hot, dry weather following the plants in many cases were not planted till August, some even later. They then made slow growth and are not at all strong. The Leek is perfectly hardy in a young state, and though I would not advise sowing in heavy clay soil at this late period, it would be advisable to sow earlier and make the soil good for the seedlings. There may be many who can afford frames or shelter of some kind, and others who do not need large quantities may with advantage sow in boxes and obtain sufficient plants for their purpose. I do not advise sowing this vegetable under glass, as if Leeks are in well drained soil on an open border they winter well. Grown thus, they lift well at the end of April or early in May and will then give much less trouble than spring-sown plants, as in dry seasons the growth is too far advanced to be injured. Leeks blanched 6 inches to 8 inches in length are a useful size for the table. These served up on toast are a delicious vegetable, and one good earthing up early in the autumn will suffice to get the length of blanched stem necessary. The value of this vegetable is its hardiness, as Leeks may be had in season from October to April, a period of six months, and at so small a cost they are among the most useful green vegetables we can grow; indeed, no other green vegetable remains sound so long or fit for table without loss of flavour. Thin sowing is a necessity, as it should be borne in mind the plants occupy the seed-bed a long time.

S. M.

Planting winter greens.—In the gardens of Lake House, Byfleet, I was shown the difference between winter greens planted with an iron bar and those set out in the usual manner. Mr. Bradley, the gardener, told me that in planting with a bar the holes were filled with water, no more being given afterwards. Certainly the difference between the two lots was very marked, those set out in the usual manner looking blue and stunted, whilst the more deeply planted ones had made a nice free growth.—J. C. B.

Forcing French Beans.—Except in gardens where there are very light and well heated structures, the forcing of Beans is not very remunerative during the duller months of the winter, and

only where the requirements of a large establishment demand it is such forcing worth the trouble. Their cropping powers are so small compared with the later spring growth, that to produce a regular supply in only small gatherings needs frequent sowing, and a goodly number of pots or boxes in each batch. Like Mr. Crawford, I believe strongly in shallow boxes for these as well as other plants, as I find they grow better in them, especially during winter than in deeper boxes or large pots. The old-fashioned plan of top-dressing forced Beans in large pots is a thing of the past. It often does more harm than good by damaging the leaves and stems and misleading those who are responsible for their care in watering. For first crops the dwarf-growing forcing sorts are preferable to the taller ones; their pods are small, it is true, but they are borne freely, and but little trouble is experienced in staking. Small pots are successfully adopted by some gardeners; with others they are not. Very much depends on local circumstances and the skill of the attendant. Seven-inch or 8-inch pots are better, and shallow boxes equal to either. It is important for first crops to sow new seed; loss of time and general dissatisfaction come from old seed that produces such irregular batches of plants, and Beans do not, only under exceptional conditions, retain their vitality over a long period. At Marston I noticed recently a very healthy batch of Beans in 8-inch pots.—W. S.

POGGIO GHERARDO, FLORENCE.

I HAD been lamenting that I could find no gardens here after my mind, and that churches, statues, palaces—though so supremely beautiful in themselves—altogether hold the field, when I chanced to hear from a young man who resides in the neighbourhood that one of the sights of Italy (that was the expression he used) was not far off, and if I could only see it I should be delighted with it in no common degree. That was sufficient to make me decide on the course to be pursued, and it was not long before my wife and I found ourselves on the Poggio Gherardo and asking for admittance at the door of Mr. and Mrs. Ross. That was at once granted to us in the kindest possible manner, and a feast of good things was soon spread out before our eyes. Mr. Ross is in the strictest sense of the words an Orchid grower. I have very often heard it said that if you grow Orchids at all you will soon come to think of nothing besides; they transport you, they fill you, they delight you so much, that there is no room left in your mind for anything else in the way of flowers, and certainly it is often the case. I have seen it over and over again. Mr. Ross's houses and collection of Orchids are splendid, and no connoisseur can tear himself away from them till a very long visit has been paid. Unfortunately, the Orchids were rather lost upon me, because, though I admire them very much, they are somewhat over my head. I have never had the opportunity of taking to them at all as I wish had been the case. But under Mrs. Ross's superintendence I had a delightful time in the place. The full Orchid season has, of course, not come on as yet, but the following grand plants were in blossom among many others that might be named: *Calanthes* of many varieties, among them the beautiful *Darblayana*; *Lælia anceps* and *L. autumnalis*, *Paphinia cristata*, some very fine varieties of *Oncidium Papilio*, *Cirrhopetalum ornatissimum*, *Dendrobium Phalænopsis*, *D. P. Schroederae*, *D. superbiens*, and many *Cypripediums*. There were several hundred young hybrid *Cypripediums* coming on and two of Mr. Ross's hybrids in blossom, *C. Rossianum* having four flowers, one stem being twin-flowered. Mrs. Ross told me

that frequently occurs. If I had seen nothing more than these it would have been a red-letter day to me. Though I do not think I should ever wish to grow Orchids to the exclusion of everything else, it may very readily be conceded that there is a fascination about them which cannot easily be surpassed.

As one so often finds about plants, the principle of compensation asserts itself on the Poggio Gherardo. Manifestly tropical Orchids have found a second home, which they like very much. I was told that cool Orchids do not thrive in the same way, and that some of the beautiful North American Orchids, e.g., *Cypripedium spectabile*, resent any attention they may receive. This really seems to be only fair when for so many other things Nature does everything, and success is so easily gained. I may, perhaps, be allowed to say here that Mrs. Ross is an artist of the first rank, and she has made representations of all her husband's Orchids, which leave nothing to be desired. I think she has something like 1800 of these pictures, and we had the greatest pleasure in looking over a large number of them.

I have said that Mr. Ross is absorbed in the cultivation of Orchids, but Mrs. Ross has another department of her own, and she is very intent upon it. It is not for me to describe the mysteries of Vine growing and how Olives are graded in three several ways, &c. All this and many other things besides require an education of their own, and must be excessively interesting to those who are located in this sunny clime. My eyes very soon fell upon objects of interest with which I have to do in the Isle of Wight, and some two or three of them I shall venture to name. It is curious how one pounces on a thing with which he is familiar, and it seems as though he never could have enough of it. I was arrested at once by a large bed of Cushion Irises which were growing *ad libitum* on one of the terraces, and which looked as though they were conscious they had nothing in the way of winter to fear. If those in my garden were ever to have the same appearance on the seventh day of November, I should consider them doomed to most certain destruction before long. How such glorious foliage would be mauled by the bitter east wind! How the thick rhizomes of some of them would be overwhelmed by the floods of devastating rain! But here they were full of promise, which is not at all likely to be dashed, and a glorious feast of blossom may be counted on for a certainty in February or early in March. What would I not give for such a walk over the course! No need for any precaution about this or safeguard against that too probable danger. *Iris Susiana* and all the rest of them will never fail in Italy if you only give them a chance, and though I am here much too soon to see my favourite flower in all its beauty, I can well understand from the look of the plants that in point of size, as indeed about everything else, the blossoms must be of super-excellent value. *Nerines* are just now beyond their prime, but there were a few in blossom in pots, and it must have been splendid a short time ago to see a bed of *Nerine Fothergilli* at its best. Could anything of a more vivid colour be conceived? Among the many good things which I noticed in this garden, it may be said that I have never before seen *Dahlia imperialis* flourishing in the open ground; but I suppose this gives the difference between England and Italy. Here it is splendid and a very great ornament to the place. But my walk round the terraces and in and out of the different nooks must be left in great measure undescribed, or I shall call for too much space.

I think I may be doing some service to fruit growers in England, and specially to those who live in the south of it or in the Isle of Wight, if I recommend them to attend to the few following facts. I will relate as well as I can what I came across yesterday. We found ourselves in our peregrinations before a tree which I should guess to be 11 feet or 12 feet high, and I was informed that it came from Japan and rejoiced in the name of Kaki Giboushiu. This tree must have had at least 200 golden globes hanging from its branches, each one being nearly as large as a Jaffa Orange and of a glorious colour. When it was at its best it must have been a sight, and the tree must be well worthy of cultivation for the spectacle alone. But it is not as a spectacle that I am referring to it now. Mrs. Ross asked me if I had ever tasted the fruit, to which I confidently replied that I had done so. And how did you like it? was the next question she put to me. I said that is a different thing, and I do not remember that I was so much captivated by it. She then inquired in what way I had eaten it. I told her, and it seemed to amuse her very much, for she at once replied, it is no wonder that you do not care more for it; the idea of adding sugar to it is absurd, and no one ever takes it fresh from the tree—it sets your teeth on edge. I remember somewhere about twenty years ago that the late Sir W. Hutt brought Diospyros Kaki to Ryde, and Lady Hutt, knowing that I am interested in such things, sent me over the road a slice of the very earliest fruit, and with it the exact amount of pounded sugar, daintily wrapped up in a piece of paper, which she deemed to be necessary. Her kindness was indisputable, but her knowledge about the matter—and no wonder it was so at that time—was limited. Mrs. Ross laughs at the idea of sugar at all, and she says that when the fruit of Diospyros Kaki is eaten it should be treated in the same way as Medlars. At first it should be kept in some warm room, and it should not be eaten till it is transparent and soft. If you do this, she declares that it is well worthy of being called “the food of the gods,” and she thinks that in all her wide experience she has never come across anything that can be compared with it. Its flavour is unlike that of anything else; it is unique; it is “heavenly.” After such an attestation as this, it seemed well worth while to attend to any instructions regarding it, and the following two or three points may be noted. The best sort for an English garden is Kaki Giboushiu, because it comes on soon in the year, and therefore ripens better than some of the others; it is also of great size and of a beautiful colour. This Kaki is most avaricious of nutriment; it can hardly be too highly manured, and two good-sized baskets of sheep’s manure are given to each tree in the course of a year. It is satisfactory to learn that this Japanese tree will stand at least 14° or 15° of frost, and Canon Ellacombe, I know, must have had it in his garden for well-nigh twenty years, but I am not sure if he is conversant with the points that have been emphasised above.

This imperfect notice of a very interesting spot must now come to an end. It is a delightful drive from Florence to Poggio Gherardo, and when you get there, the welcome at a stranger’s hands makes you glad that the expedition was made. Boccaccio loved it, and described it in his “Decameron” under its old name of Palagio del Poggio as the first place visited by the company who fled from the plague in Florence, and his name will linger here through the days that are to come. Poggio

Gherardo was bought by Gherardo Gherardi in 1432, and till then it was called Palagio del Poggio. Mr. Ross bought it in 1889 from the last of the Gherardi family. It is said that Sir John Hawkwood besieged it and destroyed that part of the old castle which is not machicolated, and which is of far later date than the rest. The view of Florence, with its duomo and campanile, and all the surrounding tract of country, dotted over, as it is, by innumerable villas and bounded on the horizon by mountains which rise one above another, is a thing which can never be forgotten. It is a matter for thankfulness that Mr. Ross’s castle and his Orchid houses were not ruined by the earthquake which was recently felt here with such tremendous force. As it was, I believe his loss in plants was very considerable, and his habitation has needed seventeen large iron clamps to hold it together since the shock. I have been several times told here that the leaders of science say that Florence would have been laid in ruins if the earthquake had lasted only two seconds longer, and that is the exact time which Mrs. Ross mentioned to me yesterday as standing between destruction and all their fair possessions in Italy. HENRY EWBANK.

Florence.

VALUE OF WOOD ASHES.

THE value of wood ashes in gardens both for fruit and vegetable growing cannot be over-estimated, particularly where the soil is inclined to be heavy. They then not only act as a fertiliser, but also as valuable agents in raising the temperature of such soils, besides operating in a beneficial manner in keeping them open, and so rendering them more easily worked. On lighter soils wood ashes are also serviceable, only in a less degree, because the lighter the character of the staple the less need is there for their application generally, the exceptions being in cases where wireworm and maggot are troublesome and where the soil has become nothing but a mass of humus from repeated and heavy dressings of manure. This latter is often found to be the case where the soil is anything but light, and although the presence of so much humus is not then quite so detrimental, both in this and the former instance the soil would be greatly benefited by the application of a good dressing of wood ashes for a season or two in lieu of manure. These wood ashes, containing as they do a considerable amount of carbonate of potash—the quantity varying according to the materials used at the time of burning—sweeten humus-laden soils, so to speak, and counteract the evils arising from a too free use of organic manures. Again, the more charcoal the ashes contain the more is their value enhanced, as this takes up and retains moisture, which is thus stored ready, as it were, for absorption by the roots of both plants and trees, as the case may be, when they come into contact with it. On wireworm and maggot-infested soils wood ashes are of special value, as they greatly assist in getting rid of the troublesome pests if their application is steadily persisted in. They should then be applied as a surface-dressing at the time the seeds are sown in addition to giving the plot a good dressing when digging, taking care to incorporate them well with the staple. For sowing in Potato drills after the planting is finished and before closing in the drills they are of the utmost service and act as a first-rate fertiliser. For getting rid of fly on the seed beds of all the Brassica tribe nothing can equal wood ashes, only they must be applied in a dry state, while they can also be used on Turnips with similar effects.

The use of wood ashes in connection with fruit growing is also well known. Here they are valuable in many ways, but principally for incorporating with other constituents when forming new fruit tree borders. They are also used for mixing with new compost in the transplanting of fruit

trees when it is necessary to place some new soil over and round about the roots. As a surface-dressing for fruit tree borders wood ashes play an important part, as, in addition to their rendering valuable manurial aid, they also heighten the colour of the fruit. Again, they may be used with excellent effect in the pot culture of orchard house trees when mixed with other ingredients, also for Pines and Tomatoes. Wood ashes are also useful in the eradication of Moss on lawns.

A. W.

GARDEN FLORA.

PLATE 1199.

SOME NEW ROSES.

(WITH A COLOURED PLATE OF MME. JULES GROLEZ.*)

SEVERAL good novelties have been added to the existing large number of Roses during the last two years. Except in one or two instances there does not appear to be the same advance as was the case in bygone years when A. K. Williams, Marie Baumann, Catherine Mermet, Mrs. J. Laing, &c., were introduced, but then fashion has somewhat changed. Formerly show Roses were in most request, now the garden varieties are in demand.

Of recent novelties, Mme. Jules Grolez, the subject of the coloured plate, is one of the most beautiful. The purity and freshness of colour, the pointed outer petals, and the fragrance of the blossoms, combined with a vigorous constitution, proclaim this Rose as one of no ordinary merit. Perhaps the finest of recent introductions is the white Maman Cochet. Considering the popularity of the pink variety, a white form of the same Rose must command an equal, if not more abundant, share of admiration, especially from an exhibitor’s point of view. Empress Alexandra of Russia is a great advance in Tea Roses. Its unique colour and splendid constitution will, I believe, place this variety in the foremost rank. L’Innocence is a Hybrid Tea of undoubted merit. A pure white Rose of the type of Kaiserin Augusta Victoria will indeed be most valuable. The flowers are of good size, borne erect upon good stiff stems—a desirable quality which florists will doubtless appreciate. Caroline Testout is one of its parents, and also of Mrs. Robert Garrett, which has good credentials from the States, and so far as seen here appears to be of a more brilliant pink than its parent. Aurora is another excellent Hybrid Tea, beautiful in form, free in growth, an abundant bloomer, and deliciously fragrant. Mrs. F. W. Sanford, if constant, must, of course, be good, for it is a pale blush sport of that queen of Roses Mrs. John Laing. Other good novelties that are sure to retain a place in our collections are Mme. Cadeau-Ramey, Emilie Gonin, Jeanne Forgeot, perhaps the longest bud of any Rose; M. Ada Carmody, a lovely Cleopatra-like Tea; Mme. Eugene Boulet, Rev. Alan Cheales, Robert Duncan, and Ferdinand Batel.

Among what may be termed garden Roses the most commendable are Mme. Rene Gerard, Frau Geheimrath Von Boch, Souvenir de J. B. Guillot, Gruss au Teplitz, rivalling Fellenberg, and splendid for massing, and Perle des Rouges, the richest coloured dwarf Polyantha yet obtained. Two quaint, but interesting striped sports of Paul Neyron must not be forgotten. They are named Panachée de Bordeaux and Coquette Bordelaise. As a conservatory climber

* Drawn for THE GARDEN at Gravetye Manor, Sussex, by H. G. Moon. Lithographed and printed by J. L. Goffart.



the climbing sport of Kaiserin Augusta Victoria will be valuable, and pillar Roses receive grand additions in Purity and Psyche.

Possibly there are other worthy novelties, for over sixty kinds were introduced during the last two years, but I prefer to have further acquaintance with them before I recommend them to readers of THE GARDEN.

PHILOMEL.

THE WEEK'S WORK.

KITCHEN GARDEN.

ROUTINE WORK.—Few gardens can be entirely devoted to vegetables, and with fruit trees near walks there will be tidying up to keep the quarters in a presentable state. Leaves and decaying matter should be removed and the ground made as neat as possible. Weeds still grow freely in spite of the near approach of Christmas, and these will need clearing away after hoeing, as we do not get sun now to kill them. All green crops are still growing freely, and I fear, should we get severe weather, they will suffer badly owing to their soft growth. It will now be advisable to heel over the Broccoli plants that are grown for late winter and spring supplies. The plants are still growing freely, but with December now in it is not safe to delay the work. I know many growers do not do this, thinking it best to leave the plants to chance, but the loss is great in severe winters. So far I have found nothing to equal the old plan of heeling the plants well over, that is, burying the stems up to the leaves and laying the heads to the north. This will check growth, and at the same time harden the plant and in a way prepare it for the change of weather. Late-planted green vegetables, such as Kales, Savoys, and Brussels Sprouts, will be benefited by having the soil drawn well up to the plants, as the portion of the stem close to the leaves is that most injured by frost. There will be a better return if the plants, previous to being earthed up, are divested of any yellow leaves, as these removed will allow of more earth being added. There should be no delay in finishing the earthing up of late Celery. Even the plants to give material for soups may have some soil to protect them. Leeks may likewise be moulded up to blanch the stems. Globe Artichokes should be cut over, the plants being then mulched with some protecting material. I find fine coal ashes the most effective, and in the autumn I remove some of the best side growths, placing these in boxes or pots in a cold frame. In case the older plants are injured, these give planting material in the early spring. Should frost not injure the older plants, I get a fine lot of later heads from the younger plants. Many growers place a goodly quantity of long litter round the plants in gardens where there are losses, but I do not think it the best plan, as the litter being wet does more harm than good. Dry leaves, ashes or Bracken I find the best. Jerusalem Artichokes will be best left in the soil and dug as required. Growth this year is much later than usual, and the tubers being softer will shrivel more quickly. In severe weather it is difficult to lift them with the soil in a frozen state. This may be met by placing long litter over a portion of the quarter. Failing this, a part may be lifted and covered with soil and litter. A final covering should be given Potato clamps in the open, as this will prevent excessive rainfall entering the clamps. Seed Potatoes of early varieties should be sorted and placed thinly in boxes or on shelves, going through those in cellars or rooms in bad weather. It will now be well to house pot Cauliflowers, as heavy rains will cause the plants to mildew badly. Affected plants should be dusted over with dry wood ashes and sulphur once a week.

CARDOONS.—It will not be safe to leave large full-grown plants in the open any longer, as though we have not had frost to injure the growths, the

heavy rainfall will cause the centre portion of the plant to decay. I have kept Cardoons for weeks after housing in a cool shed or root store, not exposing the blanched portion of the plant, but placing the roots in soil or sand. Cardoons may also be kept if suspended in a cool cellar with the roots intact, but I think treated thus they lose flavour and at times become tough if the store is at all dry. Later plants may be protected in their growing quarters. I have only this week earthed up the latest lot, owing to the late season. To protect these it will be necessary to give a covering of Bracken in severe weather. This is preferable to litter when procurable, as it is light and wards off frost efficiently. If plants are well blanched there is no gain in leaving them in the open. There is a great tendency to running this season, and such plants are of no value, being tough and flavourless.

WINTER TOMATOES.—There has been no lack of fruit up to the present. I have only just cleared out the late summer plants. More care will now be needed to keep the winter plants moving freely, fogs and damp, dark days being the greatest drawbacks to the winter fruiter. It is useless to think of setting any flowers that appear now; at least, such is my experience, as though of late years we have had winter fruiting Tomatoes sent out, they will not set in our variable climate—I mean from now to the turn of the year. With a little care one may finish up any fruits set. Insects are troublesome, the white fly being one of the worst to deal with, and strong doses of tobacco are not advised. If tobacco is used, it should be when the foliage is quite dry, fumigating several nights in succession in preference to giving one strong dose. The XL All is the safest, and one application will suffice in ordinary cases. Plants swelling their fruits should when watered get tepid liquid manure or other fertilisers. It will also be well to keep the fruits as near the light as possible. If the plants are still rooting freely, give a surface-dressing of light soil with spent manure, adding a small quantity of bone-meal. Any foliage not needed is best removed, as from this date all the energies of the plant should be centred on building up the crop that is swelling. Ripe fruits should be removed before they are quite matured. They will finish on shelves. A night temperature of 60° to 65° should be given in mild weather with a little air on the top ventilators to expel damp. A rise of 10° during the day will suffice with a free circulation of air. Plants for early spring fruiting should now be sparingly watered, and though it is necessary to keep them moving, it is well not to excite the plants. A shelf near the glass will be most suitable for them, and a temperature of quite 10° lower will suffice at night with 15° less by day than advised for plants in fruit. Those who rely upon plants from cuttings will find these need more care than seedlings.

DIGGING, TRENCHING AND MANURING LAND.—At this season of the year the grower will need to take every opportunity of preparing the land for future crops. The weather having been so open, many crops that would have been cleared are still green and giving some return. I never remember gathering French Beans in the open ground so near the end of the year. Vacant land should be given the food necessary, and in the case of clubbing with Brassicas it is of great importance to dress thoroughly at this time of year. When advising digging, trenching, and manuring it must not be understood I advise treating all soils alike. It would not be advisable in the case of heavy, wet, clay soil with the rainfall we are now getting to trench in the way advised for light soils. Earlier in the autumn I have found it well to dig such land, but not at this date, as if laid up roughly earlier the soil was in a workable condition, being dry, and would be pulverised by the exposure to the weather. In frosty weather such land may with advantage have manures spread over the surface or placed in heaps ready for digging in. Much good will follow trenching in soils that can be worked, keeping the good soil at the surface. In poor land or on a gravel sub-

soil bastard trenching is the safe method. This is digging two spits deep without changing the position of the surface and subsoil. If desired, the bottom may be dug or forked, but the food given should not be placed too low down; under the first spit will be deep enough. I have seen many failures by bringing up the poor, inert subsoil to the surface, and also by placing the food out of reach of shallow rooting plants. Now is the time to use lime freely, burnt soil in the shape of garden refuse and old soil. In the case of land that has been badly worked, lose no time in digging it to allow frosts to sweeten it. S. M.

FRUIT HOUSES.

FIGS IN POTS.—The first early batch of these, not necessarily a large one, should now be started if so long deferred. As I want them extra early, I have to start my trees correspondingly early. They are now showing signs of activity, the embryo fruits being on the move. These were started on November 1, or fourteen days later than the previous year, owing to a combination of circumstances beyond my control. My second lot of plants will be moved on gently as from December 1. Bottom-heat for those started on November 1 will be provided by about the same date too. Hitherto it was not convenient to arrange for it this season, and possibly it will be quite as well eventually that it was not so for the first month. From the time of starting these a night temperature of from 50° to 53°, with at times 55° when very mild, has been the rule, the increase during the day not being more than 10°, sometimes less. Now onwards I shall increase the temperature 5° at least during the next few weeks by night and from 10° to 15° by day, with a corresponding increase of atmospheric moisture. Up to the turn of days the bottom-heat will not range beyond 70° and 75°, then when the leaf-growth is fairly on the move an increase will be given.

FIGS PLANTED OUT.—Unless for some years these have been started thus early, it is not expedient to make a move just yet, or if it be done, let it be gently. It is a question both of success and of succession. If the trees have passed their vigorous youth they are safer as regards holding their first crop, whilst the question of a succeeding crop has also to be taken into consideration. The fact of getting one crop in good time is creditable, but to continue with another requires a little more judgment and experience both to prevent an overlap and a break where great store is set upon the Fig for the desert. Houses of moderate size are much better for successional crops than larger ones, although of course by having two or three varieties it is possible to get the desired succession. Before starting these permanent Figs, let both the trees and the houses themselves be thoroughly well cleansed. It is to be hoped that no mealy bug is in evidence. If it be so, strong measures must be resorted to for its extermination. For this purpose hot water is very penetrating, and so long as it can be used by means of a sponge without any discomfort to the fingers it is safe. This should be followed by a well-proven insecticide. Personally I have found the Chelsea blight insecticide to answer the purpose well by adhering to the printed instructions. Other and newer preparations are, I am fully aware, now upon the market, but it does not always follow that they are better. The only one of these latter that I would rank with that just named is the XL All. The object to be aimed at in all winter dressings is that of penetration. To accomplish this in the first instance warm water is the best, then, as just stated, follow with an insecticide, which will then have greater penetrating power. Beyond any question the labour now bestowed upon cleansing will bear abundant fruit later on when other work is pressing. Do not when attending to this work be content with merely washing the walls, for therein will be found comfortably lodged at times the insects of the future. Hot limewash is a great boon at this season, and if in its preparation a few handfuls of salt be

mixed, it will adhere far better to the walls. See that the Fig trees are not at all dry at the roots when started, but do not employ any stimulants now, unless it be a light dressing of bone-meal; rather wait till later on, when a better opinion of the necessities of the case can be formed. For instance, if the trees should perchance cast their first crop, then the previous application of any stimulant would afterwards encourage too luxuriant a growth.

LATE FIGS IN POTS.—These are still giving some nice fruits, but now the varieties from which the supply is being obtained is practically reduced to one, viz., *Nebian* or *Grosse Verte*. As a late Fig it is better than *Negro Largo* for extending the season to the furthest possible limit. It is, however, possible that when *d'Agen* is better known, that variety may be even later. This variety so far, however, appears to be little known. The fact is, these late Figs have not been brought into such prominent notice as they deserve, hence their special requirements have not been ascertained. When this is the case we shall probably find they are more in request than at present. The general stock of late Figs in pots, such as *Negro Largo*, which I still grow in the greatest numbers, *Bourjassotte Grise* and *B. Noir*, *Col di Signora Bianca* and *Violette Sepor*, have now all been repotted. For a few weeks past, since the last fruit was gathered, these trees have been standing in a house with sufficient heat in the pipes to maintain an average night temperature of 55°, with a fair amount of air during the day, which with the dry atmosphere has been conducive to ripening the wood. Before the end of the year these late kinds will be cooled down to the normal standard, and be allowed to rest until the end of March, or even later in the spring. Within the next few days they will be stood in the late vinery, from which the Grapes will have been cut by then. Thus the little warmth to mature the Vines and the Figs will be in unison. Non-attention to the proper maturing of the wood in the case of all late crops is a fertile source of failure. In potting these Figs the balls were lightly reduced, so that by employing pots one size larger a good amount of fresh soil could be added with the roots intermingled with it more than if potted minus the slight breaking of the ball, which, as a matter of course, loosened the roots. Later on, when cooled down, the pots of these Figs will be plunged in spent Mushroom bed manure until starting time comes round again.

EARLY POT VINES.—These have been kept, from force of circumstances, in the same house as the first early pot Figs, and although both will in a few days be transferred to the pot vinery proper (now occupied by the latest Figs), the early pot Figs will be lodgers only for a few weeks until the first early Fig house is at liberty for its future occupants; hence the temperatures as given will apply in this case also. These early pot Vines are swelling their buds kindly, and when in a few days they are in more congenial quarters will no doubt make rapid progress. No bottom-heat has up to now been applied, but when moved, some dry leaves will be worked in amongst the pots, leaving the additional bottom-heat from piping turned off for a while longer. If too much excitement at the roots be afforded as compared with the top-heat, there is a possibility of an unequal break. So also will a high night temperature which comes near to the day standard. Those who have not as yet started their pot Vines will do well not to delay any longer. Ripe Grapes may even then be had early in May if desired. Note, however, that the temperatures do not rule higher than already indicated. If not dressed with styptic after pruning, let it be attended to at once, otherwise bleeding and consequent weakening will very likely ensue as the growth becomes excited.

FIRST EARLY PERMANENT VINES.—These, where they have been forced early in previous years, may now be started with safety, and if need be a week or so earlier than has been the wont if they are in good condition at the roots, not other-

wise. Allusion has been made previously to the watering of inside borders, but it will bear repeating. Do not be misled into the idea that the watering of inside borders is a matter of secondary importance—far from it. On the other hand, soak them thoroughly when well drained, seeing to it at the same time that the water penetrates in an equable manner. After this has been done, a top-dressing of well-rotted farmyard manure may be applied, which will add its quota of moisture to the atmosphere, yet conserve that which is in the soil. HORTUS.

OCTOBER IN SOUTH DEVON.

DURING the past month 5·88 inches of rain have fallen on 18 days, against an average for the month of 4·15 inches, while the fall for October, 1897, was only 0·94 of an inch on 8 days. For the first 10 months of last year, however, the rainfall was 27·87 inches on 146 days, the average for the period being 27·38 inches, while during the present year only 19·84 inches have fallen on 114 days. We are, therefore, 7·54 inches behind the average 10 months' rainfall and 8·03 inches behind that of last year, wanting about 14½ inches in the next two months if we are to reach our yearly average by January 1. The greatest fall on one day was 1·31 inches, on the 16th. There have been 28 sunny days and 84 hours 40 minutes of sunshine, while in October, 1897, there were 97 hours 45 minutes, and the average for the month is 114 hours 25 minutes. The record for the first 10 months of the year has been a good one as far as sunshine is concerned, this having amounted to 1610 hours 30 minutes, in comparison with an average of 1593 hours 35 minutes, the record for the corresponding period of 1897, 1593 hours 20 minutes, being practically the same as the average. The mean temperature of the month has been 56·7°, against 54·2° for October, 1897, while the average for the month is 51·2°. The highest sun temperature was 112° on the 8th, the highest screen reading 68·9° on the 21st, the lowest screen reading 42·2° on the 2nd, while on the same date the mercury in the grass thermometer fell to 39·3°. The humidity of the month was 82 per cent., against 81 per cent. in October, 1897, and the ozone registered 44·2 per cent., ranging from 70 with a south-west wind to 20 with easterly wind. The total horizontal movement of the wind was 6450 miles, compared with 5590 miles in October, 1897. The highest daily run was 469 miles on the 22nd, and the greatest hourly velocity was attained between the hours of 9 and 10 a.m., when a rate of 30 miles an hour was recorded. On the morning of the 17th a terrific gust of wind, which tore off the roof of a house, blew in windows, and sent slates flying in the air a distance of 100 yards, was experienced in a well-populated valley. This disturbance was so local, that the anemometer at the observatory, scarcely more than a quarter of a mile away, did not register it. On the same day it was reported that the base of a waterspout, or a disturbance of the water caused by a whirlwind, was observed in the Channel from Teignmouth.

Although October has passed away, the tints of woodland and hedgerow give but little evidence of the waning of the year and the early advent of winter with its leafless branches. Only one month still remains to autumn, and as yet there are but few tints of yellow in the trees. Elms, Ashes, and Oaks in most cases are of an unbroken tint of green, and the Chestnut hard by, that generally is the first of all the valley to change colour, was, towards the end of the month, displaying much the same splendour of crimson and gold as it did last year in the closing days of August. It is true that there are leaves on the ground, and yellow leaves, but these lie chiefly in the Lime avenues, where the foliage has unmistakably assumed a paler hue, for the wooded hills show but few spots of lighter colour. Until well-nigh half the month was gone the swallows and martins were plentiful, but after the breaking of the heavy rains the majority of them disappeared. *Iris stylosa*, that usually commences to

bloom in October, has not as yet unfolded a single flower-bud, nor has the giant Christmas Rose (*Helleborus altifolius*), though for the last three years it has been an October bloomer, expanding its first bloom on the 6th in 1895, on the 10th in 1896, and on the 23rd in 1897. Though the trees have retained the normal colour of their foliage so wonderfully, considering the abnormally dry weather that we have experienced during the past spring and summer, there is plenty of berried beauty in hedgerow and copse. The Gladwin's pods have already split and disclosed the yellow seeds within that will soon assume a brighter colour. The Sweet Brier hedge is studded with brilliant scarlet hews, and a crimson flush is seen on the Hawthorn hedges. In the shrubbery the Barberry bushes have been bright with vermilion fruit, the coral-pink berries of the Spindle Tree hang in clusters by the spinney walk, and many a Holly has its sprays thickly covered with its vividly coloured berries that gleam amid the dark foliage. Towards the end of the month the Ivy unclosed the blossoms of its rigid flower-clusters, burdening the atmosphere with heavy odour that attracted the semi-comatose wasps and bees, and in the intervals of sunshine filled the surrounding air with the monotone of multitudinous insect life.

In the garden the spires of the *Acanthus* have rendered an artistic effect, while *Achillea ptarmica* fl.-pl. The Pearl continued its blossoming well into the month, and the white Japanese Anemones were in flower during the first fortnight, with the Belladonna Lilies standing in deep lines against the sheltering wall. Very valuable are these for indoor decoration, as they expand their blooms readily in water if cut when the lowest flower is just opening, their fine heads of pink-eyed blossoms, with their chocolate-coloured stems, being particularly effective in vases. The variety known as *Amaryllis blanda*, with a taller, less deeply hued stem and pale blush-tinted blossoms, with the extremities of the petals reflexed almost as much as in *Lilium longiflorum* and generally borne in greater numbers on the flower-scape, is exceedingly beautiful and quite as hardy as the type in the south-west. Of Asters a large number have been in bloom, *A. Amellus bessarabicus*, which commenced to flower in August, blooming throughout the entire month, and now, in November, in spite of the heavy rains that have fallen during the latter half of the month, bearing many sprays of perfect flowers. This *Starwort* is without a rival for the extended period through which its flowers are decorative, and should be found in every garden, its semi-dwarf habit and non-spreading characteristics rendering it suitable for borders of the most limited area. The pretty *A. cordifolius* and its variety *A. c. elegans*, with their branching sprays of small thickly-borne flowers, have been very ornamental both in the border and when utilised as cut flowers for the house, for which purpose *A. ericoides*, with its numberless minute Daisy-like blossoms, is always acceptable. The old-fashioned *A. diffusus horizontalis*, with its small maroon and white flowers borne on rigid branching stems, has been a favourite in cottage gardens for many a decade, but cannot compare for beauty with the great majority of the varieties now in cultivation. The white *A. polyphyllus* was a pretty sight at the commencement of the month, when the tall *A. puniceus pulcherrimus*, with its stiff flower-sprays thickly set with lavender-white blossoms, was very decorative. Of the *Novi-Belgii* section, Robert Parker, the most graceful in growth of all the *Starworts*, and invaluable for arranging in tall vases, was in full beauty early in the month, its large light mauve flowers, not too closely distributed on the sprays, being particularly pleasing both in colour and shape. *Flora* and *Pluto* are two dark-coloured varieties of merit belonging to the same section, while *Archer-Hind*, a late variety, with bright purple blue flowers borne in great profusion, is valuable both indoors and out. Of the *Novæ-Angliæ* section, *Melpomene*, the best of the purples, and *ruber*, the brightest of the reds, were blooming well early in the month, and towards its close *A. grandiflorum*, one of the

very best of the Starworts where it can be relied upon to flower before the advent of frost, presented a beautiful picture when swathed in the deep purple of its great golden-centred flowers. In all but the warmest localities this Aster should be grown in the sunniest position available and in light soil, as early ripening of the wood is desirable in order that the flower-crop may be perfected before frost sets in. The Begonias, though presenting a slightly less dense mass of colour, were bright throughout the month, while many of the large-flowered Cannas retained their gaudy bloom-spikes, and *Canna Ehmanni* iridiflora bore its pendent rose-pink blossoms. *Campanula carpatia* has been flowering sparsely, but the *Marguerite* Carnations and the early *Chrysanthemums* have been among the most effective occupants of the garden, the former, with their softly-coloured blossoms and the blue-green tint of their bountiful foliage, leaving a most harmonious impression on the mind, while the latter displayed a youthful vigour in the freshness of their but just-expanded blossoms of bronze, white, and gold. *Coreopsis grandiflora* has continued to bloom, though not with profuse abandon of its summer blossoming. *Cosmos bipinnatus*, from seeds sown in the open in the early summer, commenced to flower towards the end of the month, having in many cases reached a height considerably exceeding 6 feet. The plants need a certain amount of support during their growth, as they are easily twisted and broken by wind and rain. The foliage is very delicate, and large plants are especially ornamental, especially those of the white variety. Many specimens of *Crinum capense* have been in bloom, but became gradually less decorative as the month wore on. Dahlias have dowered the gardens with bright colour throughout the entire month, and the great golden stars of *Doronicum plantagineum excelsum* Harpur-Crewe have not been infrequent, while here and there a few late dwarf bloom-spikes of the Delphiniums were to be seen. The Mexican Daisy (*Erigeron mucronatus*) has remained in profuse bloom, and in some gardens *E. speciosus* still showed its mauve flowers. In the early days of the month the Coral Tree (*Erythrina crista-galli*) flaunted the relics of its long crimson flower-spikes, and great bushes of the hardy *Fuchsia Riccartoni* have not diminished the profusion of their blossoming. The *Gentianella* (*Gentiana acaulis*) has produced a sprinkling of its deep blue flowers, and a stray spot of scarlet marks the conclusion of *Geum coccineum* blossoming. *G. rivale* (the Water Aven), a little plant of which was introduced from a Devon orchard some three years ago, has spread in the wild garden until it has formed a patch a yard in diameter, which is scarcely ever flowerless. The *Gaillardias*, though still blooming, have considerably reduced the display of crimson and gold which they afforded earlier in the year; but the Everlasting Flowers (*Helichrysum*), stiff and formal as their blossoms are, were bright in some gardens at the opening of October. The heavy rain had a marvellous effect upon the great *Hydrangea* bushes, which, before its advent, presented a pitiable appearance with their drooping wilted leaves and flaccid-petalled blossoms, but after two days' downpour they took a fresh lease of life and beauty, remaining ornamental until the end of the month. *Hypericum Moserianum* has been in flower, and a few bright bloom-spikes of the *Kniphofias* remain in evidence, while the *Lavateras* still bear scattered blossoms of pink, white and crimson. *Lobelia fulgens*, though not providing such a blaze of vivid colour as it did during September, perfected many a later and shorter spire of vermilion blossoms, while *L. rosea* bore its softly-tinted flowers for the first fortnight of the month. The sweet-scented Tobacco plant (*Nicotiana affinis*) has preserved its beauty throughout the month, in the case of the later-sown seedlings, though its fragrance is not so apparent in October days as during the warm, dewy summer evenings. *Oxalis floribunda rosea* has been bright with blossom, and the Paris Daisies, white and yellow, are still producing

their simple flowers freely, while the Ivy-leaved *Pelargoniums* *Mme. Crousse* and *Souvenir de Charles Turner*, if not blooming with such prodigality as they displayed in past months, have borne many softly-tinted flower-trusses. It is too much to expect that the old plants will survive the coming winter in the open, as many that were left out last autumn did the preceding winter and thus presented large sheets of bloom when they attained the zenith of their beauty in the past summer. An occasional fugitive blossom has appeared on *Papaver pilosum*, and now and then the Welsh Poppies have borne a few pendent blooms of clear yellow. *Pentstemons* and herbaceous *Phloxes* flowered well into October, and the Winter Cherries, *Physalis Alkekengi* and the newer introduction *P. Franchetti*, with its much larger fruit-vessels, have created a brilliant effect with their glowing, orange-yellow calyces. *Phygelius capensis* was producing its scarlet flower-spikes during the early days of the month, when *Plumbago Larpentæ* was softly blue, and the Giant Ox-eye (*Pyrethrum uliginosum*) bore its slender-rayed white star-flowers. Of

ROSES,

the single white *Macartney* has bloomed uninterruptedly since early in July, and gives promise of continuing to expand its flowers should the present mild weather last. In this respect it is a great contrast to the rather larger single white Rose, *R. lævigata*, which flowers before the *Macartney* Rose has commenced to expand its blooms, and is flowerless for the remainder of the year. The Tea Roses have provided a continuous supply of cut flowers, *Safrano*, growing against a wall, being without a rival in this respect, while *Mme. Lambard*, *Catherine Mermet*, and *Souvenir de la Malmaison* have helped to counterfeit the semblance of departed summer within the house. Against a cottage wall a climbing Rose has ascended to the roof, and beneath the eaves a dozen white blossoms hang. The China Roses have also yielded flowers, though not in any quantity, *Laurette Messimy*, *Irene Watts*, and *Queen Mab* being especially lovely in their colouring, in which tints of pink, rose, bronze, apricot, orange and yellow are delightfully blended. *Rudbeckia Newmanii* has kept in bloom through the entire month, its deep orange, black-centred flowers being very effective and lasting in the border. *Salvia patens* has borne many secondary spikes of its deeply-blue flowers, which associate charmingly with the blossoms of the yellow Paris Daisy for floral arrangements which are to be viewed by daylight, while totally inadmissible under artificial light, which transforms the lovely blue of the flowers to black. *S. fulgens* and *S. coccinea* have also been blooming in the gardens during the past month, but as yet I have not seen the improved form, *S. fulgens grandiflora*, growing in the open. Late seedlings of *Scabiosa caucasica* have produced their beautiful light blue flowers, and the Winter Flag (*Schizostylis coccinea*) has commenced to unfold its crimson spikes of bloom. A tolerably light soil is best suited to the requirements of this plant, which in a heavy, damp staple often perishes. *Sedum Sieboldi* has borne its lilac-pink flower-heads above its glaucous foliage, and *Stokesia cyanea* has provided a deep note of colour in its purple blooms. The Winter Daffodil (*Sternbergia lutea*) has thrown up a profusion of its golden *Crocus*-like blossoms, which are very acceptable for indoor decoration. Arranged in wet sand when in an unexpanded state in a silver Algerian bowl, with appropriate foliage, they open well and produce an artistic effect. Early in October the perennial Sunflowers, *Helianthus rigidus* Miss Mellish and *H. lœtiflorus* were golden with blossom, and the Jerusalem Artichoke (*Helianthus tuberosus*) has flowered abundantly in the market gardens, the bright yellow when seen in a good stretch having a striking effect. The blooms of *Tradescantia virginica*, though few in number at this season of the year, are conspicuous owing to their velvety purple colouring. The Violets have commenced to

bloom, but both those which have been transferred to frames and those that are growing in the open border have suffered much from the dry summer, where it was found impossible to water them copiously, and mostly show evidences of attacks of red spider, which parched soil and arid atmosphere are almost certain to engender. At this time last year the Violets, both double and single, were in profuse bloom. Now it is difficult to obtain a handful where a basketful might have been gathered then. The *Yuccas*, especially *Y. gloriosa* and *Y. pendula*, have been flowering with almost as great unanimity as did the *Dracenas* in the summer, spike after spike of ivory bells attracting attention. The Pampas Grass with its silvery plumes is now at its best, its shafts not having as yet been broken by violent gales. *Zauschneria californica*, which flowered well in September, retained its scarlet blossoms through the earlier part of the past month. Many late-sown annuals have also contributed their tints to the floral display of the month, such as the white *Antirrhinum*, *Sulpiglossis*, *Cornflowers*, *Eschscholtzias*, Sweet Sultans, *Phlox Drummondii*, *Marigolds*, and *Zinnias*; while of the common plants that grow where they list, *Centranthus ruber* and the yellow *Fumitory* (*Corydalis lutea*) have been in bloom. Owing to the lateness of the season, the Virginian Creeper had scarcely commenced to turn at the close of October; on some houses, indeed, the leaves of *Ampelopsis hederacea* and *A. Veitchii* were still wearing a green tint, unbroken by any suspicion of red, on the last day of the month. On others, the larger leaves had assumed a ruddy hue, while the smaller ones that clothed the outlying tendrils, which stretched like clinging fingers on the masonry, still wore their normal tint of green. On an ivied wall hangs a belated trail of *Clematis Jackmani*. *Clematis Vitalba* (the Old Man's Beard) has garlanded 20 feet of the height of a *Wellingtonia* with its feathery seed-vessels, which week by week assume a more silvery sheen. A *Cobæa scandens*, that passed through the previous winter unscathed, has enveloped a cottage from ground-level to chimney in its rampant foliage, from which green mantle the great purple bell flowers, here and there, depend. The *Habrothamnus* is blooming against a sheltered wall, and in another garden the *Lapagerias*, red and white, are blossoming in a northern exposure. The Passion Flower is becoming every month more decorative, as the oval fruits assume a glowing orange tint and hang against the dark green of the leafage like fairy lamps. On some houses the Passion Flower is almost covered with these golden fruits. *Physanthus albens* has scaled some 20 feet of a cliff's face and has bloomed profusely in the summer, while now the great corrugated seed-pods hang from the wiry tendrils. Hard by, a fine specimen of *Plumbago capensis* has been hiding the green of its foliage beneath the pale blue of its bloom-clusters, and close by a vivid scarlet climbing variety of *Tropeolum Lobbianum* has spread its flowering shoots over some 25 feet of the cliff's surface, and is painting it with brilliant colour. *T. tuberosum* is now at its best, and has mingled its orange-red blossoms with the white flower-clusters of *Solanum jasminoides* at a height of 15 feet from the ground. The *Solanum* itself is beautiful as ever in sheets of pendent white blooms. Some has had to be cut from above an upper window, so much did it exclude the light. There is no sign of a cessation of flowering, though it has now been blossoming uninterruptedly for more than six months, for the unopened bloom-clusters are as numerous as ever. The advent of frost will, however, peremptorily set a limit to its lengthened display.

Of the shrubs, the *Abelias* have been blooming sparsely. *Aralia spinosa* presents a variety of autumnal tints, ranging from deep orange to palest sulphur, while the leaves of the Sumach have assumed an almost ruby-red. The berries on the Strawberry Tree (*Benthamia fragifera*) are becoming ruddy in their colouring. *Caryopteris mastacanthus* was bearing its lavender-blue flowers at

the commencement of the month, when *Choisya ternata* produced a second crop of scented blossom and the shoots of *Cytisus fragrans* were studded with golden blossom. *Escallonia montevidensis* flowered until the middle of October, and the double Jew's Mallow (*Kerria japonica* fl.-pl.) bore its orange-coloured blossoms. The *Laurustinus* is commencing to whiten the maroon of its bloom-trusses, but the flowers of the *Leycesteria* have departed, nothing but the whorls of pendent purple bracts remaining. The Snowberry (*Symphoricarpos*) carries many a round white ball on its slender shoots, and the shrubby *Veronicas* are in good bloom. The standard *Magnolia grandiflora* has shown no diminution in the number of flowers it bears, though their individual size is somewhat less than in the warm summer days.

S. W. F.

STOVE AND GREENHOUSE.

CAMPANULA MIRABILIS.

VARIED and extensive as is the Bellflower family, it contains no species or variety that will bear comparison with the above novelty, which, so far as the British Isles is concerned, has this year flowered for the first time. From the descriptions received from those who had either flowered or seen the plant in bloom, it was reasonable to assume that the new-comer would prove as beautiful and useful as it was distinct. From the comparatively meagre present knowledge of the plant—introduced to commerce, I believe, through Herr Max Leichtlin, of Baden-Baden—it would appear rather more inclined to be a biennial than a perennial. It is, however, scarcely biennial, in so far as the plants flower in the second year and perish as a result of that flowering, because the actual blooming stage in at least two known instances has not been reached till the third year, the plants meanwhile proving quite hardy in the open. From the seedling stage growth is rather slow in the first year, but subsequently a singularly prostrate rosette of leaves close upon the ground is developed. The leaves forming the rosette are somewhat thick and fleshy, the lower ones spreading out to a diameter of about 9 inches or 12 inches, the succeeding leaves smaller and arranged in an overlapping manner, usually alternate with the older ones. In this way the fully-grown rosette, where liberal cultivation has been given, will reach nearly a foot across, and thus form quite a unique feature among Bellflowers generally. Another marked feature of the species is the semi-succulent character of the foliage, which is slightly toothed or notched and of a shining green.

In July last the plant received a first-class certificate from the Royal Horticultural Society. The plant, however, was a small one and in no wise bore out the descriptions that had preceded it. So far as can be determined, it is a plant that must have liberal treatment from the very first if justice is to be done. Furthermore, it would appear more essentially suited to grouping in the rock garden or for planting in the border in good soil. Having raised the seedlings and grown them to a size fit for planting out, this should be done at once and quite early in the year if possible, so that a season of growth may be given the plants before winter arrives. At a subsequent meeting of the Royal Horticultural Society a very fine plant was shown by Mr. M. Prichard, Christchurch, Hants. This example was a foot or more high and carried a splendid pyramid of pale blue flowers. These latter, though smaller, somewhat resemble a small Canterbury Bell without the collar. It is evidently a free-flowering and

graceful plant, the latter item scarcely conveyed in the accompanying illustration. The plant exhibited by Mr. Prichard was three years old, and I am now informed that a good crop of seed has been secured without being artificially fertilised. This fine example carried about 100 flowers, and though it is expected it will perish, one or two growths are at appearing the base. Another example that flowered at Christchurch had larger though fewer blooms. Up to and including the spring of the present year the seeds of this plant have not germinated freely, and only a very small percentage of plants has been raised. These,

the flowering, and even in the present year with abundant heat no greater progress has been apparent.

There are some good examples of this fine species at Kew, some of which should flower another year. The species is of Caucasian origin, though even here it is reported to occur in but very limited numbers—indeed, it has been said that but a solitary example was originally found. So far we have not the success in Britain that has attended the growing of the plant at Baden-Baden, where one example, I believe, is said to have produced a pyramid of nearly 200 flowers—a charming picture indeed,



Campanula mirabilis.

however, have so far submitted to good ordinary culture. Better results may be forthcoming when fresh home-saved seeds can be obtained. These should at least germinate more freely and be generally of a more reliable character than those that have been obtainable up to the present. As some slight variations have already occurred in the flowers of this plant, it may not be amiss for those who can give the needful time to raise seedlings in quantity in the hope of obtaining distinct shades of colour. Perhaps the chief drawback to the plant is the length of time taken from the seed sowing to

as the flowers are of a most pleasing character and the general habit quite unique. E. J.

Pinguicula caudata.—This pretty little plant is not so much grown as it deserves, for the little rosy flowers are produced over a long season and are very quaint and distinct. The culture of the plant is not difficult, but it is somewhat different from that of most greenhouse plants. It delights in a very moist atmosphere with plenty of fresh air, but draughts of cold wind must be avoided. The roots require care, and those plants that now seem inclined to go to

rest may have the water supply considerably reduced, though not entirely withheld. The safest time to repot is in spring, and at this time, too, any necessary division of the roots may take place. For compost, chopped Sphagnum Moss may be mixed with half its bulk of turfy loam and sand.

Pelargonium West Brighton Gem.—This variety is very largely grown in some cases for the flower garden, and fine it is for the purpose. It is also one of the very best of winter-flowering kinds, and a houseful of it at this time of year produces an immense quantity of spikes. So free is this kind, that the plants struck in boxes for the open air, though put in in August, will in most years be a blaze of colour by Christmas, and yet be as good as ever in the beds the ensuing season. It is, in fact, one of those excellent kinds of which we have too few. If grown specially for winter-flowering the cuttings may be struck at or before midsummer, potted singly into a 5-inch, or three into an 8-inch pot, and stopped three or four times, the bloom-spikes being kept pinched out until they are placed inside in September. The plants are useful for decoration right on until late spring, for if carefully attended to with a little good concentrated manure at the roots, they will keep dwarf and full of flower for six months.

CARNATIONS FOR PROFIT.

IN Mr. Iggulden's interesting notes on the above (THE GARDEN, p. 408) he refers to Primrose Day as being disappointing. He is not the first that I have heard make a similar remark, yet I think it will be a long time before we find a good yellow with a better constitution. The greatest fault with it is that when grown on from layers or cuttings the main shoot is apt to produce a large, over-full flower which bursts. Take a plant which has had the main stem taken out, and the side shoots will produce well-formed blooms with large petals. I find that several growers who had discarded it on account of the first flowers being too heavy and bursting the calyx have gone back to it again after seeing it under different conditions. I quite agree with Mr. Iggulden with regard to the value of Germania, yet I should certainly give the preference to Miss Eva Campbell. I have now grown this in pots for several seasons, and although it cannot be considered to belong to the winter-flowering section, it will bloom well early in the spring, and the blooms are certainly of the finest form and richest shade of yellow of any that I have seen. Mr. Iggulden refers to Winter Cheer as not being robust. I have had the same experience, but after obtaining new stock, I must say it keeps up its constitution well, and where it is done well it will require something very good to supplant it. Of crimson I am pleased to hear that Duke of York is still in favour, yet I think if Countess of Warwick were tried beside it it would stand a very poor chance. The latter is a seedling from Winter Cheer crossed with pollen from Uriah Pike, and has the dwarf, free-flowering habit of the former with the rich crimson of the latter, and is sweet-scented.

So much depends upon the culture of Carnations, that I should not like to condemn any particular variety. I find that in most instances where they are grown for winter flowering the stock has a tendency to deteriorate, and it is only by growing a number of plants on during the summer in the open and selecting the most vigorous for cuttings in the autumn and winter that a healthy stock can be maintained. Perhaps the best results are obtained by planting out some young stock early in the spring and taking cuttings as early in the autumn as they can be obtained. It will be of no advantage to take them before the side shoots have made a good start. Strong, healthy cuttings well cared for form the groundwork of success in growing Carnations for profit.—A.

—On reading Mr. Iggulden's remarks on Carnations, I find that Miss Joliffe is omitted from his list of profitable varieties. At this I am

rather surprised. I am aware it requires careful culture, but it well repays it, and I do not think there is any pink winter-flowering Carnation so free flowering. No doubt its propensity for dying suddenly without any apparent cause is against it, and the individual blooms are not so large as those of Thérèse Franco or Reginald Godfrey, but the quantity well-grown plants produce is astonishing and the colour rich. I remember seeing some years ago a quantity of Miss Joliffe at Mr. Beckwith's nursery at Hoddesdon. The plants were in 6-inch pots and the picture of health, it being regarded by that firm as the most profitable pink variety grown. If a little disbudding is done the blooms come larger. The white variety Uncle John, named by Mr. Iggulden, I do not know, but I am wondering if he has ever given La Neige a trial. As with Miss Joliffe, the blooms, if disbudding is not practised, are apt to be on the small side, but if the smaller buds which usually cluster around the terminal one are removed, a fair-sized bloom will result. As for a free much-branched habit of growth and free-flowering, I question if it has any equal. The flower-stems are also stiff, which is an advantage, as they are easily arranged. Cuttings of La Neige strike readily. As a scarlet, Alegatiere seems to be falling into disrepute: why, I know not, as the plant is vigorous, not liable to disease, and produces freely flowers of extra large size, not so dark in colour as Winter Cheer, but rich for all that. Now and then blooms come flaked with white, which I suppose is a drawback from a market grower's point of view.—B. S. N.

COSTUS IGNEUS.

THE individual flowers of this plant last but a short time, but they are produced with singular freedom, and, moreover, the flowering season extends over many months. Plants here that were in full bloom in August are still (November 18) very gay, while there are many flowers yet to open, as indicated by the swollen apices of the growths. The colour is a very rich bright orange, quite distinct from anything else in stove and greenhouse plants, and as each flower measures upwards of 3 inches across, the effect of these upon the handsome deep green foliage is very fine. There are various ways of growing *Costus igneus*, and perhaps the best way to ensure large plants and strong growth is to plant out the crowns in spring in a light position in a warm, moist house. Here they will throw up immense stems that produce a lot of flowers, but they would in most cases soon become too large for convenience. Very handsome specimens may be grown in 10-inch or 12-inch pots, in which sizes they push up stems about 18 inches high in great profusion, making a finely furnished plant, the outer stems almost hiding the pot, the centre ones rising highest, and all alike crowned with the beautiful blossoms. The compost may consist of equal parts of good loam and leaf-mould, with a plentiful addition of dried cow manure, or its equivalent in guano or some good fertiliser, and a dash of coarse silver sand. If the leaf soil is difficult to obtain, use something that will keep it light and porous, a little pounded charcoal being a suitable addition. The object is to get a quick, yet sound growth. If rushed on in too great heat and moisture the flowers will be few and of poor texture, but with moderate heat, judicious ventilation, ample light and a genial moisture, the growth will be solid, yet free, and abundance of blossom will follow.

When bringing on young specimens, a shift may be given about May or the beginning of June, but with larger plants that are given a good margin of pot room at first, the one potting suffices, and this should take place as soon as possible after the young shoots appear at the

base of the old stems. It is a very free grower, and for this reason somewhat frequent division of the plants is necessary. If left too long, the growths get crowded, and as there must necessarily be a limit to the size of pots used, they do not all get a fair amount of nutriment. When the pots are well filled with roots, occasional applications of liquid manure are essential, and weak doses of clear soot water have an excellent effect upon the colour of the foliage. The plants rest during the later winter months, and at this time do well in any comparatively cool, light house, requiring very little moisture and an occasional look over for decaying foliage. Thus it will be seen the culture of this plant is particularly simple, and it is so beautiful when well grown that it ought to be included in every collection of stove and greenhouse plants. It is a native of Bahia, whence it was introduced in 1882.

CALLA ELLIOTTIANA.

SOME few days ago I saw this fine plant growing by hundreds, all either with open flowers or showing spathes in an advanced stage. The sight was to me unique, as I do not remember ever having before seen a dozen plants in flower together. This plant has proved a difficult subject with most people, and so many conflicting statements as to its correct treatment have appeared, that it may be interesting to some readers of THE GARDEN if I give, in short, the main points of the treatment afforded to bring about the above results, and to turn what has been looked upon as a spring or early summer flowering plant, and a shy and uncertain one at that, into a free and still more useful winter-flowering plant, beautiful in all its aspects, whether in or out of bloom. Most of the plants were seedlings twenty-six months old, and flowering for the first time in 5-inch pots. The flowers were about two-thirds the size of the bloom shown in the coloured plate in THE GARDEN for November 24, 1894, and of a softer yellow colour. Other plants there were older than these which bore bigger flowers than that in the plate, but my interest centred mostly in the young plants, true models of good culture bearing Caladium-like mottled leaves and fine for all purposes of indoor decoration.

The treatment given is to sow in stove heat some time in September (this year's seedlings were already from 3 inches to 4 inches high), grow on in this heat all winter, and when they show signs of ceasing growth, or as soon as it is safe to do so, remove them to an intermediate house, withholding water at the same time. Later on they are transferred to a cold frame and baked with all the sun-heat they can get. In this way they are kept dormant for about five months, then they are repotted into a good, porous, sandy mixture in which leaf-mould appears to form an important part, and replaced in heat to go through another season's growth after the same fashion. In October of the second year, or about twenty-five months from sowing the seeds, the plants begin to throw up their spathes, and they then flower on in succession for a long time. As said before, the flowers of the first crop are smaller individually than those on older plants, but they are none the less beautiful, and a batch of young plants such as I have here attempted to describe in full bloom is a revelation. J. C. TALLACK.

NOTES AND QUESTIONS.—STOVE.

Griffinia hyacinthina.—It is only rarely this striking plant is seen blooming freely in the greenhouse, though a fine spike of it is among the handsomest of bulbous flowering plants. Quite recently, however, some small examples were noted in flower at Kew, and, while not particularly strong in spike, had a good many buds as yet unopened. The deep mauve-violet tint in the divisions of the perianth is very remarkable in this plant.

Begonia Winter Cheer. This is the most cheerful looking of the series that as yet have resulted

from the crossing of *B. socotrana* with the ordinary tuberous kinds. Of the former, however, there is but little evidence in the hybrids, which are but little removed in habit and flowering generally from the earlier types of the tuberous *Begonia*. If, however, the same rapid strides mark these later kinds as are now so apparent in the *Begonia* to-day, a few years hence will see many beautiful things.

TREES AND SHRUBS.

THE WHITE-STEMMED BRAMBLES.

(*RUBUS BIFLORUS*, &c.)

TREES and shrubs with brightly coloured bark can be made to produce very striking effects in autumn and winter, and they are most welcome at a time when scarcely any flowers or even fruits are left to brighten our gardens. Perhaps the most popular of those belonging to this class are the Willows with yellow, red, or blue-white stems (*Salix vitellina*, *S. daphnoides*, &c.). The Brambles mentioned in the following notes constitute a useful group, although their stems do not present the variety of colour seen in the Willows, all of them being of a blue-white, although of different shades. There are about half a dozen species of *Rubus* possessing this character, but the one here illustrated is, I consider, by far the finest, both as regards its size and vigour and the peculiarly vivid colour of its stems. Of this, the illustration, I think, affords abundant evidence. The whitish substance which covers the bark is a waxy secretion, very common on the different parts of many plants, although rarely so abundant as in this *Rubus*. One sees more or less of it on the stems of most hardy Bamboos, and it is very frequent on the stems and leaves of succulent plants. It can, of course, be easily rubbed off.

There is one quality these white-stemmed shrubs possess which does not pertain in any special sense to shrubs as a whole. This is their peculiarly striking effect in the moonlight. I have frequently had occasion to pass the group of Brambles here figured on bright moonlight nights in winter, and have always been impressed by the strange, almost weird, effect produced by the thicket of white wands contrasted with the dark masses of evergreens behind.

The cultivation of this Bramble is very simple, it is chiefly a matter of good soil and an annual pruning. It likes a good, sound, loamy soil, and what produces tall, thick stems also adds to their whiteness. Vigorous growths, too, retain their colour longer. Pruning should be done as soon as the flowering and fruiting season is over. All the stems shown in the engraving belong to the year 1898. Those of 1897 flowered last summer and afterwards bore

a little fruit; they were cut out some months ago. This is done not so much in regard to the health of the plants as to their appearance. After a winter's rain and fog (near London at all events) the white bloom on the stems wears off or becomes dirty, and in any case the stems are only biennial.

RUBUS BIFLORUS.—Although brought to this country from the Himalaya in 1818, its great value for the particular purpose under discussion does not seem to have ever been fully recognised. It is either not mentioned in catalogues at all or is confounded with *R. leucodermis*, which is not only quite distinct (and not so good), but comes from North America. At Kew, *R. biflorus* has stout, arching, spiny stems, 10 feet high and 1 inch in diameter at the base, the upper part

R. OCCIDENTALIS.—According to Aiton this shrub was introduced in 1696. It grows some 5 feet to 6 feet high, its arching stems being of a duller blue-white than those of *R. biflorus* and much less formidably armed, the prickles being small and far apart. The flowers are white and the fruit purplish black. It is a native of the Eastern United States and Canada, where it is known as the Thimbleberry or Black Raspberry. From it have been derived what are known in America as the "Gregg" and "Hillborn" Raspberries.

R. LEUCODERMIS is the best known of these white-stemmed species in nurseries and gardens. It does not appear to be so strong a grower as *R. biflorus*, and the bloom on the stems is not of so vivid a white, but more distinctly blue. The



The white-stemmed Bramble (*Rubus biflorus*) in the Royal Gardens, Kew. From a photograph by G. Champion.

forming a spreading head of white prickly branches. Each leaf has five leaflets, which are also whitish beneath. The flowers are white, too small and few in number to be of any account, and the fruits are yellow. The plants in the picture were raised from seed four years ago.

R. LASIOSTYLUS was first discovered and introduced by Dr. Augustus Henry, whose name has in late years become so prominent in connection with new Chinese plants. He found it in the Hupeh province in China and sent seeds to Kew, the plants from which flowered in 1894. The flowers are small and reddish purple, and are too fleeting to add much to the beauty of the plant. The stems are about 4 feet high, erect, densely set with prickles and covered with a blue-white bloom. It does not promise to equal *biflorus* or even *occidentalis*.

flowers are white and the fruit yellowish red and of good flavour. It is a native of North-west America and was found long ago both by Douglas and Menzies on the shores of the Columbia River.

R. NEGLECTUS was sent a few years ago to Kew by the Arnold Arboretum. It is the strongest grower of these American white-stemmed Raspberries, being about 8 feet high. The stems are not so well coloured this year, but in some seasons they have been very striking, the bloom on them being white with a decided tinge of blue. It is thought to be a hybrid between *R. occidentalis* and *R. strigosus*. The fruit is dark red.

R. STRIGOSUS is another of these glaucous-stemmed Raspberries. It is a native of North-eastern America, and reaches from Labrador southward to the mountains of South Carolina. It is allied to *R. occidentalis*, but differs in the

stems being covered with bristles rather than prickles. The fruit also is red. A common name for it is Wild Red Raspberry, and it is the original of the "Cuthbert" and "Hansall" races of cultivated Raspberries.

These species are of only secondary importance compared with *R. biflorus*, which is the plant to grow for the colour of its stems; *R. leucodermis* and *R. occidentalis* are the next best.

Kew. W. J. BEAN.

The blue-flowered Hydrangea.—Everybody knows and admires the blue Hydrangea, but what is still not well known is how to produce the blue flowers. In the way of mixtures, what has not been tried in order to impart this blue to the flowers of Hydrangeas—soils obtained from slate quarries, powdered slate, ferruginous soils, sulphate of iron, &c.—in a word, a heap of materials and ingredients not always at hand nor easy to procure. The compost which I recommend is, on the contrary, within the reach of everyone, and it simply consists in the use of coal cinders. The mixture which I have used for five years to impart the blue colour to the flowers of my Hydrangeas is one-third peat soil, one-third leaf compost, one-third coal cinders.—ERNEST BAR, in *Le Jardin*.

PUBLIC GARDENS.

HAMPSTEAD HEATH.

IN accordance with the wish of the Hampstead Heath Protection Society that I should report on the present state of the Heath, and what may best be done for its future preservation, I beg to submit the following.

As to the wish to preserve the Heath in its natural state as far as possible, this is so right a desire from all points of view, and being, moreover, settled by Act of Parliament, it is needless for me to write anything in support of it, but as a planter I may say that there is no reason whatever why this wish should not be successfully carried out. The existence of stupid planting and jerry building is no proof that there are not better ways, and it is just as practicable and, with a little thought, as easy to group and mass in picturesque ways the vegetation most suitable for Hampstead Heath as to plant trees like lamp-posts, and attempt to adorn it with mere samples of the conventional "shrubby." The artistic and picturesque ways in which shrubs and trees may be planted, with some thought as to their nature and habits and mature effects, is by far the best for the health, beauty and endurance of the trees. Willows in a marshy bottom or Furze on the sandy knolls will live longer and look far better than the common muddle shrubbery, of which there is an example on the Heath at the edge of the Viaduct Pond. Here trees and shrubs from many parts of the world are thrown together as in a shrubbery in a St. John's Wood villa, without regard to anything but their size as they left the nursery, and so jumbled together that they can but kill each other and never produce any good effect.

WHAT TO PLANT.—As to this vital question, I feel strongly that this is a place for our native shrubs and trees, which are very much neglected in ordinary planting; and not the more popular native trees only, like the Birch, Beech, and May, but such trees as the

true Aspen and field Maple, and among shrubs the native *Viburnum* of the woods in the home counties, which are rarely planted and never massed in picturesque ways as they should be. The result would help to teach the lesson that our native trees and shrubs are as beautiful as those of any other country, and it would also be a charming contrast to the parks, in which conventional trees of the nursery are usually the only ones planted. Whatever is planted should be grouped or massed in picturesque ways in the best sense natural, and thus what in conventional "laying out" might be called defects of the ground could be made to add to its beauty, the most rugged and broken surfaces lending themselves to native trees and shrubs perfectly. Even the wretched cinder heaps which disfigure one part of the Heath might be made pretty with Sloe, Furze and Broom, avoiding the labour of levelling the ground, but simply planting or sowing it with native shrubs, and fencing out sheep, rabbits, and other creatures for a few years. Mowing the surface of the grassy parts of the Heath is harmful, as tending to prevent the blooming and seeding of native plants like the Hairbell, and the practice should be forbidden, as should all clipping of trees "to get them into shape," which only means robbing them of that grace of form and variety of outline which Nature has given them.

POOLS.—There has been a filling up or disappearance of small pools on the Heath, owing partly perhaps to the drought of the last few years; but all the larger natural pools should be kept, not only for their value in reflecting the light, but also to encourage that graceful native vegetation which only grows by the margins of water. Where possible the natural drainage of the Heath should be kept above ground, and the small watercourses and ditches preserved.

PONDS.—In the fine series of ponds at Hampstead a mistake has been made in destroying the water plants, and disfiguring the margins by forming them into hard, ugly lines—the result of thoughtless cleaning of the ponds, when not only the native plants were taken up, but the ground lines characteristic of the margin of water destroyed. The result is as ugly and unnatural as anything could be, and a loss not only of the effect of the vegetation natural to the waterside, but also as regards food and cover for water birds.

When I last walked round these ponds at the end of May there were several miles of bare, ugly margin (in some cases 3 feet high) hard over the water. All the bolder native water plants should be restored, and many fine plants that naturally grow on the banks near water might be easily grouped here and there, and their growth would help to conceal the false lines of the present margins. In some cases ugly boards are used to form the margins, which might be easily hidden by a belt of water and waterside plants. In any

future cleaning of the ponds, both the water-side plants and margins should be taken care of. Even in ponds used for bathing it would be easy to keep a rich belt of vegetation and leave ample space for access to the water, but in large ponds where there is no bathing such a state of things is deplorable in a place which is supposed to be kept in a natural state.

THE AIRY EFFECTS AND NATURAL LINES OF THE GROUND TO BE KEPT.—Whatever is done in planting, the open, breezy character of the Heath should be preserved. It is only thus we can get the pictures and effects which distinguish Hampstead from other open spaces in and near London. Such pictures it is well to keep, and not for artists only, as many who never possess painted pictures feel the beauty of the real ones they see here. Much ordinary planting would be destructive of the open and airy character of the Heath; and where common vigorous trees have been planted, as on the east side of "The Spaniards" road, so that in time they will obscure good views or the foregrounds of such views, they should be removed and massed where they can do no harm to the character and beauty of the Heath.

Attempts have been made to shoot earth and rubbish to fill up the hollows on the Heath; and as the surrounding district is busy in building, these attempts are likely to be repeated. Therefore the bringing on the Heath of such rubbish should be absolutely forbidden, as the only effect of this filling up of hollow places will be to destroy the natural incidents of the ground, usually far prettier in form than the results of smug levelling up, or, worse still, the formation of such artificial mounds as we see examples of in the parks.

BARE AND WORN BLUFFS.—There is a considerable area of bare bluff in the Heath which, in the absence of crowds, would be soon covered with vegetation; and as these bare places are hot and unpleasant to look at and occupy much surface which might be more beautiful, it will be well to sow Furze, Broom, Sloe, and a few of our native shrubs there, protecting them from injury for a year or two until they can take care of themselves. This plan need not imply the barring of access up and down such bare bluffs, as it should be easy to keep open the more frequent paths.

DEFACEMENT OF THE HEATH BY NEEDLESS STRUCTURES.—The erection of these, no matter on what pretext, should be carefully watched, as in such a place they are certain to lead to needless cutting up and spoliation of the surface, and to the ruin of the landscape effects. The chief charm of such a noble piece of broken and picturesque ground is in giving a place of escape from the noise, fuss, and often too facile conveniences of the town; and I think there is likely to be a more insidious danger to the Heath in the future from mean and frivolous structures than any other single cause.

FENCES.—Where a fence of any kind is required in the foreground of a Hampstead picture, rent Oak should be used instead of

the usual cast-iron, which is destroying so much the beauty of the landscape in the home counties. It is best to avoid fencing wherever it is possible to do so, and any iron at present in use on the Heath should be kept for its best use, viz., supporting wire for the temporary protection of plantings from browsing animals of all kinds, without which no successful planting can be carried out.

HEATH PATHS.—The introduction of the conventional park or garden path would be deplorable here, and the aim should be to keep to the best of the beaten paths. The public help very often in the formation of good paths by taking the line of easiest grade, which is often a good line. But where, as in a few parts of this Heath, too many paths occur, owing to the very great crowds, it is not well to give way to the surface being wholly destroyed, and it would be well to keep the best of the paths and widen them with care, keeping their free margins—and, where much surface is saved in this way, sowing native shrubs—with temporary protection until they were strong. As to the surfacing of the paths or drives, no ill-coloured rubbish, like cinders, should be used, as they have been here. Where the colour of the gravel found on the Heath is so good, we should be careful not to use black or ugly colours on roads or paths.

CARE OF THE HEATH.—Such a vast and precious space, liable to danger from without as well as in other ways, should not be left wholly to take care of itself. In a state of nature, or freed from crowds, it would soon become a thicket or a wood; but, with the vast crowds that pour over it, constant care and thought will be required to renew the planting and save the old trees and all else worth preserving. A ranger who knows our native trees and shrubs well should be in charge of the Heath, whose duty and pleasure it would be to keep the Heath as a heath, and not merely follow the conventional ways of parks, and who could be appealed to readily by those interested in the preservation of the Heath. W. R.

Bamboo stakes.—Bamboo stakes, lately inquired about, are much more lasting than wood and neater, too, but one drawback possessed by them is that they do not grip the soil as wooden stakes do, and therefore, if the plant sways about in the wind, they are very apt to get loose. This is owing to the highly-glazed surface of the cane. One other item to bear in mind is that they are hollow, and the upper portion sometimes affords a home to earwigs and other insects, but this can be readily prevented by stopping up the hole at the top.—H. P.

Wire trellis for walls.—In your issue of THE GARDEN for the 12th ult. (p. 393) there is a note by Mr. Hudson re "Injury to wall trees from wire," with a supplementary note by the editor on latticing walls with Bamboos and Chestnut or Oak. I shall deem it a great favour if you will let me know your method of fixing Bamboos to the wall, and if best done in diamonds. It is intended to build a stone wall round the kitchen garden here (stone being plentiful through some alterations), and as I believe wire to be very harmful to wall trees, I shall be glad to know of some suitable substitute.—WILLIAM PLANT.

* * * Your question is so very interesting, that we hope that some of our correspondents who feel

as we do about the matter will help you. The ordinary old French and English way was to tie the trellis-work of Oak or Chestnut into lengths of, say, two yards or so, making it in the winter under cover, and then attaching it in spring to the walls by holdfasts. In making a stone wall now ourselves we put in strong eyes here and there to attach such trellis-work to—say about every yard of the wall or so—and these when our trellis is ready will be very handy. For Peaches we should say squares of 10 inches would be the best. For Pears and stronger trees we are putting into the wall strong galvanised eyes about 1 foot apart, so that it will be easy to tie the branches to them, and if for any purpose we want to tie or train the young wood, we can easily run a Bamboo or other stick from eye to eye.—Ed.

ORCHARD AND FRUIT GARDEN.

APPLE MALTSTER.

My attention has been called to some remarks by "A. D." (page 395) anent the hardness of the wood of this very excellent dessert Apple. When "A. D." says "the wood is so tender that entire trees have been killed during very severe winters," it is very evident there must be a spurious variety about, and those who make that assertion or supplied such information must have been victimised. My experience is the very opposite, and out of upwards of 250 named varieties there is no kind so hardy or that suffers less from frost than the Maltster, and there are at this and neighbouring places plenty of trees having boles upwards of a foot in diameter, whilst at Stoke Edith, I am informed, there is almost an entire orchard of very large trees of this variety in vigorous health, which have never suffered injury from frost.

I do not claim an equality in favour with such kinds as Cox's Orange, Ribston, Gravenstein, and similar kinds, but for a sweet, juicy, pleasant, soft-fleshed dessert Apple during the months of October and November it is far before many of the so-called early dessert kinds; moreover, the tree is a constant bearer, with a good constitution, a shapely grower, and ought to be included in the best dozen of dessert Apples grown on the Crab or free stock. The colour, being greenish, with a slightly flushed cheek where exposed, is somewhat against it as a market variety as compared with such highly-coloured kinds as Worcester Pearmain and others, but which are certainly inferior in flavour to Maltster. At all events, when one finds the juniors perfectly unanimous in praise of the Maltster, one gets an unbiased opinion about the taste of the Apple, to say the least of it. The same verdict is expressed by more orthodox Apple eaters when presented at its best; but, unfortunately, like all the section of early kinds of Apples, the fruit does not long retain its crisp, fresh, agreeable, delicate flavour after being gathered and stored; nevertheless, I know of no Apple superior to it for the month of October when gathered from the trees at short intervals.

Perhaps if those who have had unfavourable experiences and whose trees have suffered injury by frost (if such is possible) would give some further details in the columns of THE GARDEN, some useful information may be arrived at, beneficial to fruit growers generally. Of course it would be necessary to give the kind of stock, the locality, and whether this kind suffered from frost more than other kinds growing alongside, with some description of the habit of growth and other particulars sufficient to identify whether spurious or otherwise. I should be pleased to present grafts of the true Maltster to applicants, in reason, at any time, so as to confirm the above statements.—W. CRUMP, *Madresfield Court*.

—Having read the note from "A. D." anent this Apple (p. 395), perhaps it will interest him to know that this variety is well known and grown rather extensively in this neighbourhood.

I also have Maltster, and, as far as I can learn and from my own personal experience of it, I find it to be anything but tender. On the contrary, it is as hardy as the generality of sorts, and it passed through the severe winter of some six years ago unscathed. I value it here as being an excellent favoured Apple, and it remains in good condition until the end of October. In an orchard not far from where these lines are being written the fruits of this variety attain a large size, colour splendidly, and invariably return the owner a substantial profit when marketed.—A. W., *Stoke Edith, Hereford*.

Apple Margil.—The flavour of this variety is apt to vary in different soils and under different conditions, but as a rule it is distinctly good. It has seldom been better, I think, than this year, and fine fruit of it has been exhibited on several occasions. Being of a convenient size for dessert and a reliable cropper, it may with advantage be planted freely on good Apple soils. Where the soil is very heavy the tree is liable to canker, and the fruit in some instances has a very tough skin. It is, in short, an Apple that requires good cultivation to bring out its best points.—J. C. T.

Apple Red Streak.—Twenty years ago an Apple named Red Streak might be seen in orchards in South Essex carrying immense crops of fruits. Whether it was a local sort or not I do not know, but I have never met with it since nor have I ever seen it catalogued. I have wished I could get hold of it, as it is a never-failing bearer, while the fruits, which were about the size of King of the Pippins, very conical in shape and heavily streaked with red, were very juicy and well flavoured, coming into use in October and keeping fairly well. I have seen large boughs propped up to prevent the weight of fruit snapping them off. Probably it is grown under another name, but I have never seen it in any other part of the county so as to recognise it. Since writing these notes I have learned that this Apple is known by the name of Colonel Vaughan or Kentish Pippin.—J. CRAWFORD.

Large versus small pots for Strawberry runners.—Opinions are divided as to whether large or small pots are best for layering Strawberry plants, but much depends on circumstances. I can remember when large pots were always used, but then Strawberries were not forced in such quantities as they are in many places now-a-days, though excellent fruit and early in the season was produced. One thing is certain, that by using large pots much time and labour are saved. The only objection I can see to the system is that in very wet seasons the extra bulk of soil in 6-inch pots is apt to get into an over-wet condition and the weaker-growing varieties start slowly into a free growth. On the other hand, there is often a difficulty in keeping plants in small pots moist at the roots in dry weather, especially if not plunged, and if, through press of work, a pot bound condition is reached, they are often slow in starting into growth when potted. In seasons like the one just past, runners from special stock plants are far better than those procurable from the very best fruit-bearing plants on exposed quarters, and their semi-shaded position favours early and free rooting. It would be next to impossible to layer into large pots on fruiting quarters unless much extra room were allowed between the plants, as the runners usually require layering before all the fruit is gathered.—J. CRAWFORD.

Fig Castle Kennedy.—It is now a good many years since this Fig was sent out at a high price, having been raised by the late Mr. Fowler, of Castle Kennedy. Thousands were distributed, but gardeners soon found that, although a fine variety, it was a very shy bearer, and for that reason it is not now very extensively planted. It is catalogued as a hardy variety, but it is not wise to plant it outdoors. Even when planted under glass these shy-bearing Figs ought, I think, to be assisted with a little warmth soon enough in the season to allow of the fruit ripening in August.

The wood then has a chance of becoming well ripened, an important point with capricious sorts. Of course, no one would think of planting Castle Kennedy except in a limited root-run. The soil also should be of a poor sandy nature and the compost largely consist of pounded bricks or mortar refuse. A plan which might be adopted with advantage is to form a basin by means of a turf rim. By top-dressing, fibrous roots are formed in abundance near the surface. These can be removed each winter with the knife and a fresh surfacing given. I have adopted this course with forced pot Figs, and the fruit did not drop the following spring. The plan of laying in an extra quantity of wood with a view to check grossness is an erroneous one. Better retain no more than can be exposed to sun and air, and modify growth by root restriction.—NORWICH.

SHY-BEARING APPLES.

It is all very well for those having plenty of orchard or garden space at command to plant slow or shy-bearing Apples for the sake of variety, but amateurs and others with only limited convenience ought to avoid these often disappointing varieties and plant those only that may be depended on for giving both a speedy and good return. Curiously enough, some of the very finest, most handsome varieties are the shyest fruiters when in a young state. Take, for instance, Peasgood's Nonsuch. In some few soils and districts it may produce a few fruits at an early date, but the majority of trees remain doggedly barren for years, even though root-pruning and other cultural details receive strict attention. I had an espalier tree which for five or six years did not bear a single fruit, despite all the efforts on my part to induce it to do so. A friend of mine had a similar experience, although when his tree did commence to bear the fruits were magnificent. Warner's King is often classed as a profitable market Apple, which it undoubtedly is when growing in soil that just suits it, but my experience of it, both in standard and the more restricted espalier form, is that it is very uncertain both as to when and how it will yield. I have known it planted in a cottager's garden and fruit looked for in vain for years. I am told it is more prolific on the Paradise stock, but have not proved it. Some think Warner's and Cobbett's Fall one and the same Apple, but I do not, having grown them both in various forms. I found Cobbett's Fall not only much freer in bearing but also of a richer colour; in fact, on a standard in a sunny position the fruit took on a beautiful bronzy hue on the exposed side. Some might be induced from seeing fine fruit exhibited to plant King of Tomkins County in standard form, but unless the soil and situation are warm, failure may be apprehended. The same may be said of Alexander, an Apple unsurpassed either for size or beauty when grown on cordon trees in warm places. Blenheim Orange is well known to be a slow Apple, but it has this redeeming feature—that when once it arrives at a bearing state it remains fruitful. Bramley's Seedling is a much over-rated Apple. In strong loam it fruits fairly early, but in ordinary soils it sometimes remains unfruitful for ten or fifteen years. —NORWICH.

PEARS.

ALTHOUGH one often has to complain of a superabundance of ripe Pears at some particular time, and then a difficulty in finding them, I think the glut is even more pronounced than usual so far as the early part of November is concerned—a state of things probably due in a great measure to the prolonged spell of dry weather and a premature finishing of the fruit. I left them, too, on the trees later than usual this season in the hope that the ripening might be somewhat delayed. At the present time I have ready Marie Louise, Beurré Hardy, Doyenné du Comice, Van Mons Leon Leclerc, Durondeau, Thompson's, and Beurré Alexander Lucas, and I have picked

out ripe fruits of Nouvelle Fulvie and Glou Morceau. I planted Thompson's and Alexander Lucas some few years ago on the recommendation of a well-known grower, and am very pleased with them. The former kind is rather small with me, but a good cropper and excellent in flavour, whilst the other comes of extra size, also crops well, and, if allowed to ripen out thoroughly, is a really fine Pear. The duration of the ripening process, or rather the exact time when different varieties are at their best, is a subject requiring careful study alike as to sorts and to the character of soil in which they are growing. Here, for instance, sorts like Van Mons, Beurré Hardy, and B. Superfin must be sent to table as soon as they will yield to a rather firm pressure, whilst Marie Louise, Alexander Lucas, Doyenné du Comice, and Glou Morceau can be kept until the fruit will only bear the slightest pressure. If asked to name one of the best and most useful Pears, I should unhesitatingly give Glou Morceau. It is a great and consistent cropper, comes in when the bulk of varieties is over, and has certainly about the longest season of any, especially where trees can be planted in different aspects. This with Winter Nelis and Josephine de Malines is the best late Pear here. Neither Bergamote d'Esperen, Beurré Rance, nor Easter Beurré ever ripened sufficiently to be worth eating, and I have removed them in favour of other sorts. I have gradually removed very old trained trees and replaced them with cordons, but one of the few remaining is a variety of Bergamot that ripens towards the latter end of November and is an excellent Pear. It is between the old Autumn Bergamot and Gansel's in size, richly flavoured, the flesh firm, sweet, and juicy. It may be only the old variety with size and quality altered by the protection of a wall, and the season lengthened from the fact that it is on a north-west aspect.

Claremont, Surrey.

E. BURRELL.

THE BEST PEACHES IN FRANCE.

WISHING to compare the best Peaches cultivated in England with those cultivated by the best growers for the market in France, we are indebted to Mons. Vitry, a distinguished cultivator of Montreuil, for the following list of the best kinds grown in that famous town for Peaches, some of which, it will be seen, are little known in England:—

First early kinds.—Amsden, Alexander, Hale's Early.

Early kinds.—Grosse Mignonne Hâtive, Grosse Mignonne Ordinaire, Madeleine de Courson.

Midseason.—Galande, Bellegarde, Belle de Vitry, Henri Pinaud, Alexis Lapere.

Late.—Belle Beauce, Belle Imperiale, Bonouvrier.

NOTES AND QUESTIONS.—FRUIT.

Plum Prince Englebert.—I know of no other blue cooking Plum which grows so large as Prince Englebert. I do not think it is one of the most certain varieties; at least, I confess I have never been very successful with it. One sometimes sees vigorous, well-cropped trees, and I remember seeing such an one in the south of England. It occupied an east wall space of about 15 feet by 12 feet. One good point is that it will hang a long time on the tree in good condition.—NORWICH.

Peach Dagmar.—I do not claim for this Peach the richest flavour, but it is a very useful variety, and a good one to grow where only rough and ready treatment can be given. I grew it in a second early house where the fruit ripened in July. The tree is a great bearer, and the fruit, which is about the size of Stirling Castle, takes on a fiery red colour. It is juicy and refreshing and would make a good amateur's Peach. I can only speak of it as grown under glass, as I have never tried it on an open wall.—C. N.

The weather in West Herts.—A very cold and wet week. On two days the shade temperature at no time rose to 40°, and on the coldest night the exposed thermometer registered 10° of frost. At the present time the soil is at about a

seasonable temperature at 2 feet deep, but about 3° colder than is seasonable at 1 foot deep. During the last ten days 2½ inches of rain have fallen, making this the wettest consecutive ten days since September, 1896, or for more than two years. At 9 p.m. on the 28th ult. my garden was covered with snow to the average depth of 1 inch, but this fall was soon melted by the comparatively warm ground. During the past thirteen years there have been only three Novembers as warm as the month now ending, for I am writing this report on the last day of it. Throughout the first three weeks there did not occur a single unseasonably cold day, and only three cold nights, but the temperature was often quite wintery during the last nine days of the month. Rain fell on fourteen days to the aggregate depth of nearly 2½ inches, which is slightly below the November average. Nearly the whole of this total has fallen during the last ten days, previous to which there had been no rain worth mentioning for more than a fortnight. The record of bright sunshine was somewhat in excess of the mean for the month.—E. M., *Berkhamsted.*

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE executive committee of the above society held a meeting at Carr's Restaurant, Strand, on Monday evening last. The chair was taken by Mr. T. W. Sanders, and he was supported by a fairly full muster of members. The usual preliminaries of minutes and correspondence having been disposed of, it was announced that the late treasurer had written thanking the society for the testimonial presented to him on his retirement from office. A letter was read by the foreign secretary from Mr. Briscoe-Ironside, giving some interesting details concerning the progress of Chrysanthemum culture in Italy. There was also a communication from the secretary of the French National Chrysanthemum Society, thanking the committee for the cordial reception accorded to their representative to the recent Aquarium show, and expressing a hope that a deputation of the English society might visit the conference at Lyons next year. A report was read from the sites sub-committee setting forth the proposed arrangements with the Aquarium Company for holding next year's series of exhibitions there, and the same was agreed to. The secretary, Mr. Dean, announced that the prize money awarded at the November show amounted to £330 19s. 6d., and that one gold, seven silver-gilt, ten silver and ten bronze medals had been awarded. A rough statement of assets and liabilities was then submitted and considered satisfactory. It was resolved that the floral committee should fix the dates of its meetings for 1899, and that that committee be invited to dine together at the conclusion of the meetings as in former years.

Several offers of special prizes were considered, and the meeting closed with the election of sixteen new members.

Gardeners' Royal Benevolent Institution.—We are asked to state that the Reigate and District Chrysanthemum Society have forwarded through Mr. J. Brown a donation of £21 to the funds of this institution.

The Royal Gardeners' Orphan Fund.—The next election of children to the benefits of this fund, consisting of an allowance of 5s. per week until they attain the age of fourteen years, will take place early in February. All applications must be made on a proper printed form, copies of which may be obtained gratis of the secretary, or any of the local secretaries. Such forms must be correctly filled up, duly signed and returned to this office by Tuesday, December 20, 1898.—A. F. BARRON, *Secretary, Chislewick.*

At a meeting of the executive committee held at the Horticultural Club on November 25, Mr. A. W. G. Weeks in the chair, the following special donations were announced: Mr. W. Bryant,

sale of flowers at the Rugby Chrysanthemum show, £7 5s.; Mr. J. Hughes, Birmingham, box, £4 3s. 4d.; The Sevenoaks Gardeners' Society, per Mr. Cooke, £4; Mr. R. Scott, Bradford, box, £1 10s.; Messrs. G. Bunyard and Co., Maidstone, box, £1 5s. 2d.; Mr. W. Bates, Twickenham, box, £1 4s. 6d.; and the Chiswick Gardeners' Society, box, 10s. It was announced that Mr. William Nutting had consented to take the chair at the social supper to take place at Anderton's Hotel on the evening of the annual general meeting, on February 17.

Italian National Chrysanthemum Society.—The first annual exhibition of the Italian National Chrysanthemum Society was held at Milan from November 10 to 15. It took place in the Fine Art Gallery, and a finer, lighter and more suitable building for such a show would be difficult to find. The majority of the exhibits were pot plants. Mr. Briscoe-Ironside had a room to himself, which he completely filled with examples of every section of the Chrysanthemum, and also with plants. For this he was awarded a gold medal. The floral committee held a meeting, but awarded only two first-class certificates. These went to M. Ernest Calvat for the following: *Princesse Bassaraba de Brancovan*, a large Japanese of the C. B. Hayward type, and *Lesdiguieres*, also a Japanese of large size, pale orange, streaked crimson. At the show there were eighty-four competitors in the forty classes. On this occasion the executive of the Italian society issued a very attractive and interesting special number of its journal, "*Il Crisantemo*." This publication consisted of thirty-two pages, and was enclosed in a coloured wrapper with a tasteful allegorical design.—C. H. P.

NOTES OF THE WEEK.

Physianthus albens in fruit.—I am sending you some fruit of *Physianthus albens* grown outdoors in these gardens. The plant is on a south-west wall. I never saw the fruit so large before. There are about two dozen fruits altogether.—EDWIN CLEMENTS, *The Gardens, Caerleon, Killiney, Dublin.*

Paper-white Narcissus.—Twenty years ago it was considered early if this plant was brought into bloom at Christmas or the end of the year, while at the present time it is easy to get the plants to flower at the end of October. For some time past bunches of it have been noted in the streets, and at Kew some two or three weeks since many examples were in full flower in the greenhouse in pots.

Poinsettias.—It was easy to see by the excellent examples of these brought from Tunbridge Wells to the Drill Hall last week that no London fog had been hitherto in contact with them. The colour of the bracts was generally remarked; indeed, they were the only things present at the meeting in question possessing any approach to brilliancy of colour. The plants were admirably grown, carrying the fine foliage quite low on the plants, and in vigour, as much as in size and colour, denoted good culture.

Epiphyllum truncatum Princess.—Perhaps many were surprised to see this plant obtain a first-class certificate at the hands of the floral committee last week, when already there are so many beautiful things in commerce. As a class, however, these beautiful subjects are not well, or even generally known, hence the reason probably of the award. It should, however, be stated that the majority of kinds, if much larger in size, possess deeper coloured blossoms, varieties with the delicate pleasing tone of *Princess* being considerably in the minority.

Pernettya mucronata.—Whether as pot plants for the conservatory or for massing in beds in the flower garden, *Pernettyas* are alike useful and attractive also by the profusion of berries the plants produce. In the rock garden, too, such things would prove of considerable service when almost all the occupants are at rest. The plants may be so grown during the summer as to form a subordinate crop, so to speak, or they may occupy permanent positions in the rock garden, and thus play their part in prolonging the display.

Crassula lactea.—Among easily-grown plants useful for winter flowering the above is note-

worthy, the plants both blooming freely and lasting a long time where the air is fairly dry and but little atmospheric moisture prevails. The plants are impatient of much root moisture at the flowering period. The species is as valuable for baskets as it is for pots, and in the former, advantage may be taken of its longevity without much added moisture, the succulent character of the plants affording almost all that is needed.

Erica hyemalis.—The past hot, dry season appears to have been very favourable for this useful winter-flowering Heath. I have never seen it better flowered or more plentiful than this season; in fact, the London markets have been rather overstocked, and many plants have had to be sold at prices that could hardly prove remunerative to the growers. There are now three distinct varieties—the normal form, a pure white variety, and one called *superba*, which has larger flowers and the lower portion of the tube of a deeper pink. It is a strong grower, but does not flower so freely as the type.—A.

Erigeron mucronatus.—This little Mexican Daisy, so often referred to in *THE GARDEN*, is yet in flower (November 26) in the rock garden here. An almost continuous bloomer throughout the summer, it is even more valued now that rock garden flowers are scarce. This *Erigeron* is a true perennial, but is a little too tender to stand our most severe winters except on a very dry soil. Here one need care little for the effects of the hardest frost so far as old plants are concerned, as seedlings appear in profusion and have to be thinned out, or they would become troublesome.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

No hardy flowers in summer.—I always thought our friends who believe there are no hardy flowers in July and August had rather a dim vision, and I am surprised to find my friend Mr. Meyer in the same boat.

July and August, as a rule, are dull months with regard to most hardy flowers. The early things are over and the late flowers have not yet commenced to bloom. Doubly welcome, therefore, are flowers that bridge over the gap and look bright and cheerful during the months mentioned.

No hardy flowers in July and August! This on the face of all the lovely Tea Roses for those who grow them well and all the fine border Carnations, not to speak of Water Lilies, a whole garden of Lilies, and brilliant and tall Lobelias. People who think July and August dull months do not do their duty about hardy flowers.—BROOKSIDE.

Verbena venosa.—As a hardy herbaceous perennial this plant is worthy of notice, and may with advantage be much more largely grown, as the colour is by no means unattractive in a mass. In some gardens the plant is employed as a permanent edging, and in this way plays a somewhat important part in the display. It frequently happens, however, that with increasing years such edgings become more or less exhausted, and means should be taken to secure a fresh crop of young plants either by division or by seeds. In exceptionally severe times frost will render the plants patchy, but this is not frequent, and may be prevented by a covering of ashes, leaves, or cocoa fibre placed on the plants now, or a portion of the stock may be boxed and placed in frames. The former is the better way, however, as the old plants at this season often die as a result of the disturbance.

Scilla italica alba.—Looking through a volume of Maund's "*Botanic Garden*" to-day, I came upon the plate of *Scilla italica* and its white variety. The former is far too little grown, and some time I may have a little more to say regarding it. It is, however, of *S. italica alba* that I desire to speak, hoping that it may be brought under the notice both of trade and private growers. I was on the look-out for it for some years, but could never ascertain where it was to be had. About three or four years ago it was offered in a Dutch catalogue, and I secured a bulb. This did not flower, and died the following winter. This white Italian Squill is not now

offered in any of the catalogues with which I am acquainted. Probably there are other admirers of hardy bulbous plants who may not know that there is a white variety of *S. italica*, and a demand for the same may call forth a supply.—S. ARNOTT.

Abutilons for winter flowering.—"H." (p. 432) refers to the value of these beautiful plants, and mentions having had no opportunity of trying them away from London. "H." however, is quite right in his estimate of their value in the purer country air. Some years ago I grew a large collection, but I found none so really profuse and free in midwinter as the old *Boule de Neige*. Subsequently, among others, *Golden Fleece* was given a trial, and, if anything, I believe it is a more profuse and abundant bloomer than *Boule de Neige*. No others equalled this pair in these respects, while in point of colour *Golden Fleece* is a variety deserving great praise. It is this variety that is so marked a feature in one of the greenhouses at Kew. A fine plant, with its roots in soil beneath the stage, spreads its twigs over a considerable roof space and flowers freely for months. It is surprising, too, seeing the nearness to the river and the havoc which the fog plays on many good things in these gardens, that this *Abutilon* is so hardy and enduring. Only recently the large plant referred to was literally covered with its richly-coloured flowers.—J. C.

OBITUARY.

ROBERT B. PARSONS, OF FLUSHING.

WE regret to learn that Mr. Robert B. Parsons was run over and killed by a train on the Long Island Railroad at Newtown Station on Tuesday, November 1. Deceased was one of the best known and most respected men in Flushing, where he has spent his lifetime, and where he was born in February, 1821. His father, Samuel Parsons, established a nursery business for his two sons, Robert and Samuel. The land connected with the nursery extended over two hundred acres, and the business done by the Parsons was a very extensive one, extending to every section of the Union, to Mexico, and to Europe. Both Robert and Samuel B. Parsons made frequent trips to Europe, and also became interested in the trees of Japan, and were among the first to introduce them to America. The firm was dissolved in 1872. Samuel Parsons, with his sons, established the Kissena Nurseries, while Robert Parsons continued the business at the old place.

Mr. Whittall, of Smyrna.—Our readers will regret to hear that this gentleman, who has done so much to enrich our gardens with rare bulbs and seeds from Asia Minor, has recently been captured by brigands. The following note appears in London papers:—

Mr. Whittall, a British subject resident at Smyrna, who was recently captured by brigands in the neighbourhood of the town, was released on Saturday evening. The Sultan, on hearing of his capture, immediately sent orders to the Vali of Smyrna to do all in his power to procure Mr. Whittall's release, and even, if necessary, to pay the ransom demanded by the brigands.

Mr. Whittall is to be congratulated on his lucky escape, and we sincerely hope that his adventure will not deter him from continuing to explore the mountain flora, from which he has sent us so many fine and new Snowdrops, Scillas, Chionodoxas, Tulips, Irises, &c., during the past ten or twelve years. A portrait of Mr. Whittall was given in *THE GARDEN*.—F. W. BURBRIDGE.

Names of plants.—H. H.—1, *Cyrtanthus McKeni*; 2, *Angiopteris evecta*.

Names of fruit.—J. McKenzie.—Pear Pitmaston Duchess; Grapes so smushed impossible to verify.—R. C. Coope.—Apple Rymer.—W. Ingram.—1, Col. Vaughan; 2, Pennington Seedling; 4, King of the Pippins; 5, Cox's Pomona; 3 and 6, next week.

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ORCHARD AND FRUIT GARDEN.

UNSUITABLE SITE FOR AN ORCHARD.

A SHORT time ago I remarked in THE GARDEN that the question of disposing of a piece of land often leads to the formation of orchards when the soil and situation were more or less at variance with the essential conditions to successful hardy fruit culture. Recently, in South Wales, a striking example of this kind came under my notice. A narrow belt of land in a hollow by a riverside, backed up by hills on the west and south, and exposed to the full force of the winds from the north and east, was being planted with Apple, Pear, and Plum trees. A more undesirable position for an orchard could scarcely be found. Here the fogs and vapour from the river will retard the maturation of the wood in autumn, and aid the frost in spring in destroying the fruit-buds and blossom. The dry, cold winds from the north and east, having full play, will abstract the moisture from the flowers, paralysing and destroying them. With these evils to contend with, the chances of successful results are very remote. With good soil to root in and liberal treatment in the way of manure, the plants may grow apace, quickly attaining good-sized trees, which the absence of fruit will foster. For ornamental purposes the situation and aspect are wrong, for the plants, if at all maintained in a healthy condition, will be sparsely flowered, and the few fruits the hardier sorts may bear will be small compared with the normal size of the variety. Besides, should cold, cutting north or east winds prevail at the time their weak, scattered flowers are unfolding, they will be practically shrivelled up in the bud, so that a display of blossom as well as fruit may only be looked for in exceptionally propitious seasons. The moist atmosphere, too, will not only mar the prospect by frustrating the maturation of the wood and facilitating the destructive agency of frost, but it will also foster the growth of Moss on the trees—an evil every intelligent fruit grower

guards against. A few old specimen Apple and Pear trees not far from the new orchard referred to bear testimony to this pernicious tendency of the saturated surroundings, for they are literally feathered with Moss from the ground to almost the end of every shoot.

With such a practical lesson as this of the unsuitableness of the site for an orchard, no fruit grower familiar with the conditions under which successful cultivation can be secured would ever entertain the idea of utilising such land for the production of hardy fruits. It is in cases like the one mentioned that energy, enterprise, and money are wasted, because the situation is a very bad one, the aspect the worst that could be chosen, and the atmospheric conditions everything but those which should obtain. There are many unprofitable old orchards in the country due to one or more causes, but one would scarcely expect to see new ones started under such unfavourable circumstances as I have just described, considering the amount of instruction in such matters conveyed through the horticultural press for the benefit of those whom it should interest. The best site for an orchard is one falling to the south, the land well drained, sheltered from the north and east, and some distance above and from water. In such a position, provided the soil is suitable, the plants well fed, and the seasons at all favourable, good results may be rationally be expected.

J. RIDDELL.

Pear Beurre Diel.—In the majority of gardens I have always found the above a favourite, and "Suffolk" (p. 416) does well to call attention to its good qualities, as it appears at home in most soils if well drained. I am not quite sure if I can go so far as "Suffolk" in advising it for heavy soils, as in such I have seen poor fruits and badly cracked. Drainage is one of if not the chief cause of failure, and the good crops this year in heavy, poor soil would be greatly influenced by the drought this year and last. My best fruits are from trees on a sloping bank, the soil being very light. I have other trees on walls in heavy soil, but on these the fruit is much smaller, nearly

covered with russet, and lacking the clear yellow skin of those in better drained soil. In wet seasons the fruits in the heavy soil crack. This variety does well as a cordon on a warm wall.—G. W.

Pear Thompson's.—Many omit to include this excellent variety in their collections. Those who study quality will do well to give Thompson's a place, as I do not know of any October Pear with superior flavour. Of course, Doyenné du Comice will be selected in preference to Thompson's, but with me Comice is a little later and can be better termed a November fruit, Thompson's being at its best in the third week in October when grown in a warm, well-drained soil. In my opinion it is little inferior to Comice as regards flavour. The trees do not always thrive on the Quince. I have trees on the Pear which rarely fail to crop, but the best trees are those double-worked. Given this, it makes a grand wall tree, and is also more suitable as an espalier. It does not thrive in cold soils or exposed positions.—G. W. S.

Apple Cornish Gilliflower.—It is curious that this variety should be so highly prized when its shy-bearing and ugly-shaped fruits are considered. Its quality as a dessert fruit is not superior to that of Cox's Orange or Ribston. If it were, some reason would be furnished for the high position given it by some growers. Cox's Orange being equally fine flavoured, a better grower, and a much more handsome fruit, what need is there for planting such an uncertain sort when there is but one favourable point in its character? I have never yet planted a Cornish Gilliflower, and it would take a deal to convince me of its claim for favourable notice. Mr. Burrell says he finds that, unless his trees are carefully netted, birds soon spoil the crop. The same thing occurs here with Gravenstein, another Apple possessing a very pronounced aroma, so strong, in fact, that it can be detected several yards distant from the tree. Wasps are attracted for the same reason. Where wasps, hornets, and small birds are so persistent and numerous—and this occurs in some districts more than others—it is not a good investment to plant such sorts as these. I have compared Cox's Orange and Cornish Gilliflower from a flavour point of view and could detect no difference, and this is the

only point which has given fame to Cornish Gilliflower. I do not see any justification for the favour shown it.—W. S.

OVERCROPPING YOUNG PEAR TREES.

PEAR trees are often weakened and sometimes ruined by being overcropped in a young state. The soil and situation may be all that can be desired, but if the trees are not treated carefully when young, good results cannot be expected. Some varieties will take care of themselves, even needing root pruning to check growth and induce fruitfulness, but it is the early, free-bearing sorts that often get crippled at the start. I recollect seeing a lot of young Pear trees in a garden in Suffolk a few years ago. They had been planted the previous autumn, and being studded with fruit buds, and the soil being warm and well drained, they became established before winter—such free-bearing kinds as Louise Bonne, Beurré Clairgeau, and Doyenné du Comice fruiting freely the next summer. When I saw them in September some of the trees were laden with fruit, and I was not surprised to hear the following year that the trees were practically at a standstill, and would take some years to recover, if ever they did. Had this first year's crop been reduced to a third or even a quarter, all would probably have gone on well and the trees have filled their allotted space in a minimum of time. With older established trees the case is different; when overcropped they usually take a rest and have the power to recoup. Sometimes young trees bear fruit on the extreme ends of the leading growths. These should be removed, as they not only hinder the tree's progress, but spoil the leaders. Some gardeners summer-prune newly-planted trees whether the growth is strong or weak, whereas weakly trees should go unpruned the first summer. This, with mulching and watering and picking off any fruit that may appear, tends to lay the foundation of a vigorous and fruitful tree.

J. C.

Pear Passe Crassane.—This variety is not so much grown as it deserves, as in a warm soil and favourable situation it is a splendid Pear. As a cordon I failed with this variety, but when the trees were given more freedom there was a better return. It does not do well on the Quince, and our leading fruit growers advise double grafting. I once had this variety on the back wall of a cool Peach case on a west aspect and obtained splendid fruits. We have so very few really good Pears after Christmas that any that can be grown are most valuable.—G. W.

Pear Glou Morceau.—This is a very fine variety when well ripened, and on a south wall in Wiltshire it used to bear freely, fine handsome fruit of delicious flavour being produced. Here I have it in the open and cannot say as much for it, though possibly it may be better when thoroughly established. The trees have fruited twice only. The soil is heavy, but the trees have been well fed and other varieties have done well. It would appear that this Pear, excellent as it is, needs a sheltered position such as is given by a wall as described. At its best Glou Morceau is a large and handsome fruit, good to the core and fit for the table by the middle of December.—SUFFOLK

Apricot Large Early.—Few growers can rely on Apricots for any length of time, the trees dying off so suddenly. The Moorpark is one of the worst in this respect. For some years I have grown Large Early, and find it little inferior to the Moorpark. It is also early, with free cropping qualities. This year I gathered the first fruit of this variety in the first week in August. I have both fan-trained and rider-trained trees. The latter I do not advise, as unless the wall is high the trees cannot be extended, and there is too much cutting of wood, which is not advisable. The Large Early makes a strong growth, and herein, I think, lies its value, as if we lose any shoots it is an easy matter to replace them with new growth. Unfortunately, one cannot always

get large trees owing to the demand, so that it is well to grow trees on for a year or two before placing in permanent positions.—G. W.

Pear Bishop's Thumb.—I am now sending this to table, and the fruit, though small, is juicy. It is an old variety and to some extent looked down on, but there are many worse than this. It certainly is not so fine-looking as many others, especially from old trees. My trees of it are old ones that for many years were kept spurred back closely, and consequently little if any fruit was produced. They have been allowed to have their head since then, all the pruning that has been done consisting in thinning out the branches and shoots entire where this was needed. The roots have not been touched. Suckering when the trees were spurred was very troublesome, but it has almost entirely disappeared.—H.

Compost for Muscat Grapes.—I fear many will not agree with the suggestion put forth at p. 416 regarding the compost for the above Grapes. I used to be under an excellent cultivator who was a great advocate of light borders, in the making of which he used sand liberally. Since that time I have had to do with diverse soils, and am not so much in favour of the too light ones. I think the important point is drainage, to which "N." at p. 416 refers. I do not think deep borders conducive to good Grapes, especially Muscats, and the best I ever grew were in 2½ feet deep borders. Many years ago we had not the various compounds now advised and much used, and so far I do not see that Grapes now-a-days are any better than when grown without so much food.—S. H.

Peach A Bec.—We have no lack of good Peaches ripe in August, this variety being well worth room in all gardens where good fruits are needed. Requiring a great quantity of Peaches in July and early August, I find A Bec one of the most useful and reliable varieties. It is a large fruit, and I have found there is a great demand for large fruits if the quality is good. A Bec is of first-rate quality, having melting flesh and a peculiar sweet flavour not unlike that of a Strawberry. The fruits are of a rich crimson colour with a pale yellow tinge on the shaded side, the stone small for the size of fruit and separating freely from the flesh. I have it on a south-west wall, and this year the fruit was ripe on August 7. It is equally good in a cool house, coming in well after the forced kinds. It does not keep long when fully ripe, owing to its having a very thin skin.—S. H. M.

Plum Coe's Golden Drop.—This Plum of late has received more notice than usual in the pages of THE GARDEN, and it is well worth it, as, in my opinion, it is one of the most useful sorts grown, on account of its lateness and good quality. At p. 416 "C." says the fruits may be kept into November. In the north I frequently had this Plum for the dessert in December, and late pot trees gave the supply for Christmas Day. I do not know any other Plum superior to it for pot culture. The pot trees for the late supply named were kept under a high north wall to retard the bloom. This Plum may be kept from six weeks to two months if wrapped in tissue paper and then placed in a cool drawer or box. Though it shrivels badly, it is none the worse. My late fruits are from east and north walls, as here I find I get much finer fruits than when grown on standard trees, and they can then hang longer if netted. I find the fruit keeps much better if allowed to hang on the trees till the leaves have fallen, this in some seasons being late in October.—S. H. M.

Early pruning of fruit trees.—The early pruning of fruit trees has much to recommend it. When done before the new year it is seldom so cold as during the first three months in the new year, consequently it is got over much more quickly. Another advantage is that it can be done when other things are not so pressing. This is a method I have adopted during the last twenty-five years, having seen the advantage of so doing. Some thirty years ago, when serving in a good

garden in Buckinghamshire where there was a large number of wall trees, the pruning and nailing were commenced immediately the leaves fell, beginning with the Pears and Plums and finishing with the Peaches. Some think it is advantageous to leave the pruning of many things till the spring under the impression it retards the trees, but I have never seen any advantage from so doing. Last year I finished the pruning and nailing of the Apricots early in January, and no one could wish a better crop. This has been done for the last ten years, and I see no reason for a change.—DORSET.

PEACHES ON NORTH WALLS.

Few growers in the north would venture to plant the Peach on a northern aspect, and even in more favoured localities the trees at times may not always be quite satisfactory. On the other hand, when I grew trees thus, the crop on the north wall was a fair one when that in more favourable positions was poor indeed. The latter remark may be questioned by those who have poor soil and do not grow the Peach so well as desired, but the reason one crop fails where the other succeeds is owing to the trees on the colder aspect not being injured by frost; the bloom being so much later, the crop is often saved when the early bloom is injured. It is not worth while to plant a tree or trees if the soil is heavy and badly drained. Of course, such soil would not promote growth or ripen the same in the late summer months, but in a well-drained soil no one need fear evil results if the situation is favourable. There is a great gain in having Peaches for four or five months from open walls, and I am aware this may be accomplished even with trees on more suitable aspects if the kind of tree is studied. By planting a few midseason varieties on a north wall, if all points are favourable, one may have the best Peaches much later. Many owners of gardens who object to the poor flavour of the very late varieties and have a warm soil may with advantage adopt this system. I am not expressing these views entirely on my own experience, as only a few days ago I saw one of our most noted fruit growers lifting trees on a north aspect, and from these trees excellent crops had been secured. Here Royal George and Crimson Galande were the kinds most prized, and few varieties are of better quality than the old favourite; yet, strange to say, on a warmer aspect in some soils Royal George mildews badly, and many would hesitate to plant it on the colder site or position. I would not advise it only under the most favourable conditions. Crimson Galande is one of our best Peaches on walls other than the south, and such aspects appear to suit the trees well, as this fruit keeps well after gathering; indeed, in my opinion the quality is improved if the fruits are stored for a few days before using, as direct from the trees they are mealy if quite ripe. Dymond is a beautiful Peach, but should get the best culture. This grew grandly on an east wall, a very high one, being the back of a high fruit house, and grown on long stems or as standards, rider trained, there were grand fruits; but probably in anything but the best possible soil and locality Dymond would be a little risky, as it is later than the others named. Stirling Castle is good, as is Goshawk, as these make a good growth if the roots are in suitable soil. Grosse Mignonne as a standard trained on a high wall also did well, and was from three weeks to a month later than the same variety on a warm wall. It may be thought that a north wall would be better for the earliest kinds. I do not advise such, as there is too much risk; the trees flower too soon and are liable to be injured, as though later than on a warmer wall, the Peach flowering so early is not safe on the aspect named.

G. W. S.

NOTES AND QUESTIONS.—FRUIT.

Pear Beurre St. Louis.—I found a tree here bearing the above name. In a warm, dry summer it

develops a colour such as I have not seen in any other Pear, but the exquisite rosy colouring on the sunny side with a golden ground belies itself when quality is looked for. In an ordinary summer it is not nearly so handsome. It ripens in the latter part of August and September, is of medium size, pyriform in shape, with a stout stalk of medium length.—W. S.

Peach Princess of Wales.—If the remarks of "Norwich" (p. 417) are read carefully, I fear there will be few growers of the same opinion concerning the above variety. I am aware as regards appearance, size, and good cropping no one can object to it, but its flavour, in my opinion, is very poor. It is largely grown for market and it always sells well, but in a private garden I would prefer Sea Eagle and the Nectarine Peach. In fruit catalogues Princess of Wales is strongly recommended, but my experience is that unless we get a very favourable season it is only second-rate.—S. B.

Pear Directeur Hardy.—This new variety fruited this season in sufficient quantity to test its quality. So far I have only grown it in cordon form and on a warm wall, so that in such a favourable position it received special culture. We have no lack of Pears in season at the time this one comes in, and many growers would have hailed it with delight had it been a March instead of an autumn variety. At the time of writing my fruits are quite ripe, but the light soil in which they were grown may have made them earlier. The quality is excellent and the tree crops very freely. Some pyramids on the Quince promise well and are covered with fruit-buds. I find there is always a demand for large Pears if the quality is good. Directeur Hardy will be an acquisition owing to its size, quality, and good cropping.—S. H. B.

DESTROYERS.

GOOSEBERRY BLIGHT.

(MICROSPHERIA GROSSULARIA.)

THIS fungus, according to a leaflet just issued by the Board of Agriculture, frequently causes many of the leaves of Gooseberry bushes to shrivel and fall off. Upon casual inspection of the bushes in the early stages of the disorder, the upper and under sides of the leaves look as if they were covered with white dust, or had been powdered with fine lime or sprayed with limewash. Under the microscope it is seen that there is a dense covering, which has been aptly termed a "felt-like coating," of slender white or greyish white threads on both sides of the leaves. These form the mycelium of the fungus, which does not, like the Potato fungus, live within the plant, but merely sends down short branches—suckers or haustoria—into the cells of the leaves. Upon these threads, or filaments, summer spores, or conidia, are first formed, which are borne by the wind from plant to plant and spread the disorder. Later on, the winter or resting spores are formed to carry the fungus on through the winter. These are imperceptible with the naked eye, but they may be seen with a glass late in July and during the autumn in the form of dark brown bodies upon the "felt-like coating." Upon examination of these bodies with the microscope they are seen to be nearly globular, with cross markings on their surface, and bearing from seven to eight slender, colourless filaments, with ends somewhat fantastically branched. It is supposed that these branched filaments keep the perithecia in place upon the mycelium on the leaves. The perithecia contain from four to eight asci, nearly oval cases, in each of which there are four or five spores. When the leaves fall the perithecia fall with them, and remain upon the ground or on the decaying leaves until the spring, when the asci burst, and the spores are liberated and speedily germinate in favourable conditions. An allied species of fungus causes very much more serious injury to Gooseberry bushes in the United States, so that it has lately been found almost impracticable to

grow there the finer varieties introduced from other countries. The appearance and life history of this fungus are very similar to those of the *Microsphaera grossularia*, except that the former infects the fruit as well as the leaves.

PREVENTION AND REMEDIES.—The leaves from infected bushes should be raked from under and around them and burnt. The ground round the bushes should be dug or hoed deeply to bury the perithecia, and when the bushes are cut in the winter, every piece of cutting should be raked up and burnt. Any dead leaves remaining on infected trees should be, as far as possible, picked off and burnt. Where there is a sign of infection the leaves should be dusted thoroughly above and below with very finely powdered sulphur put carefully on with a knapsack powder distributor on a still, hot, sunny day. Sulphide of potassium diluted with water in the proportion of 1½ lbs. of sulphide to 50 gallons of water, and sprayed over and under the leaves in a fine spray, has been found to be efficacious. This dressing should be applied very early when the leaves are small and young, and should be repeated in about sixteen days. The Bordeaux mixture, as used for Potato disease, may be used with advantage—sprayed on by means of a knapsack sprayer in a very fine spray when the leaves are fully formed. The mixture should be made of 2 lbs. of sulphate of copper and 2 lbs. of lime to 25 gallons of water. If used later in the season, when the foliage is strong and fully developed, 3 lbs. of sulphate of copper and 3 lbs. of lime may be employed with 25 gallons of water. But care must be taken in the use of these applications when the leaves are young, also when the Gooseberries are large and intended for early picking.

THE BLACK CURRANT MITE.

FOR a long time the Black Currant has been considered one of the most profitable of small fruits by Kentish market growers, but whether this will be so in the future is open to doubt. A serious evil has presented itself, and one that is most difficult to overcome, in the form of the Black Currant bud mite (*Phytoptus ribis*). This troublesome pest, which is commonly known as "button bud," has totally destroyed more than one profitable plantation, and in the absence of any satisfactory means of eradication Currant growers are fearful for the future of this hitherto profitable crop. Growers of bushes that are affected would gladly make use of any practical means of clearing the pest, but, unfortunately, there does not appear to be sufficient known of the life-history and habits of the mite to be of any service. It is thought by some that the presence of the pest does not assert itself till the early spring, but in several plantations recently I have noticed numbers of swollen and distorted buds, which are due to the irritation caused by the feeding of the mites within.

As evidence of the serious increase of this pest, it may be stated that only a few years ago "button bud" was unknown among Kentish growers, and in many places it was not until it had made its injurious effect too apparent to escape unnoticed that much attention was paid to it. Only recently I was informed by a grower who has had to destroy several acres of Black Currants that he noticed the swelling of the buds at the outset, but paid no attention to it, as he thought it was early movement caused by the mild season. Bitter experience has taught him a different story, and after several attempts to get rid of the enemy he had to pull up and burn the whole of the bushes which for years had been a source of profit. Nor is this a solitary instance of the seriousness of the matter, and many growers who would like to plant Black Currants on a large scale are afraid to do so. Now a-days in the

purchase of bushes the all-important question is whether they can be guaranteed free from "big bud," and it is more than likely that the rapid spread of the evil is due largely to planting infested stocks. Picking off the infested buds in the spring and thinning out the old wood in the autumn appear to be the best known means of keeping the foe in check. The cost of these operations is considerable, and I know of one large grower who this year has spent a considerable sum in having his bushes hand-picked. He is quite sure that if he had not followed this up persistently his plantations would now be valueless. I am not aware of the Currant bud mite asserting its presence in many private gardens, but the experience of other correspondents would not only be interesting, but something fresh might be gathered as to the mysterious pest which by its ravages not only affects the financial returns of Currant growers for market, but seriously threatens the future of what is now an important branch of a great industry.

G. H. H.

ORCHIDS.

ODONTOGLOSSUM TRIPUDIANS.

AT this time of the year, when few of the yellow-flowered *Odontoglossums* are in bloom, the pretty arching spikes of *O. tripudians* are very welcome. There is considerable variation in the flowers, and some few are not particularly showy, but a really good form of it can hardly be beaten now among cool-house Orchids. In habit it is similar to *O. Pescatorei* and *O. crispum*, the spikes being produced in the same way. The type has chestnut-brown markings on a yellow ground colour, the lip pale yellow. A much deeper-coloured lip occurs in *O. t. xanthoglossum*, this organ being a pretty chrome-yellow, while another variety has a white lip with markings of bright rose. But it is singularly little grown considering how useful the flowers are, and one may go a long way and into many collections and not see a plant of it. The amateur or beginner will do well to add it to his collection at the first opportunity he has, and it is very interesting to obtain newly-imported specimens and see how they turn out as to variety. In selecting plants from an importation, regard must be had to their condition; but it is only fair to Orchid dealers of repute to say that in a far greater number of cases than formerly the plants are collected in better season, and this is to the advantage of everyone interested. Large or fairly large masses are greatly preferable to the small bits so often offered at sales in London and one or two provincial towns. They are practically worthless to nurserymen, and they are glad to get rid of them at any price. An *Odontoglossum* with half a dozen fair-sized pseudobulbs may often be worth more than a score of others with only about two on each, and the former if in fair condition should be selected. The process of plumping up the plants by laying out in a moist, warm house should never be neglected. Sometimes, of course, the plants will have been in this country some few weeks before being offered, and if so the owners will naturally have treated them as well as circumstances allow, so that when purchased they will be plump and possibly just about to emit roots. In this case they should be potted up at once. *O. tripudians* likes a moderate amount of compost only; anything like a thick layer must be at first studiously avoided. Unless root action seems imminent, the plants may simply be potted in clean potsherds, adding the peat and Moss when the roots begin to push. The plan of giving rather more warmth at

first to new importations has much to recommend it.

When well established and growing freely, *O. tripudians* is best in the coolest house with *O. crispum*, *O. triumphans*, and similar kinds, while the treatment is very similar. One difference is that often at the time *O. crispum* and others are being repotted, *O. tripudians* is throwing up its spikes, so that to disturb it would be unwise. It may in such a case be left until the late spring, or individual plants may be given new compost at the most suitable time according to the state of growth. For, although for all practical purposes *O. tripudians* may be considered an autumn-flowering kind, it is not at all unusual to see it blooming at various times throughout the spring and summer. The treatment must naturally be altered accordingly in such cases. The plant first flowered in this country in Mr. J. Day's collection at Tottenham in 1870, it having been introduced a short time previously by Messrs. Hugh Low and Co. It had, however, been known on the Continent for many years previously, having been sent to M. Linden's nursery probably by the Polish collector Warszewicz, who discovered it during his travels in South and Central America about 1850. It is a native of the rich *Odontoglossum* district about Venezuela and Colombia, whence it has been frequently imported. H.

Pleione maculata.—This is extremely pretty now, the finely fringed lip giving it a very delicate appearance. Some plants noted during the week growing in large pans were very bright and effective, but I do not consider them nearly so pretty grown in this way as when in small pots or pans that can be almost hidden by small Ferns or fine-foliaged plants. This is one of the best growers, like *P. lagenaria* in many respects, and may with advantage be repotted immediately the flowers are past. Afterwards keep it fairly dry until new roots are being freely produced.—H.

Spathoglottis Fortunei.—Though introduced by the Horticultural Society as far back as 1844, this species has never been very popular, and even now is not at all freely represented in collections. It was one of the plants found by Mr. Robert Fortune during his botanical exploration of China, and is a terrestrial species, thriving best in a cool intermediate temperature such as suits the Guatemalan *Odontoglossum*. The flowers are yellow, spotted with brownish red, and are produced in erect independent racemes. The best compost for it is equal parts of peat, leaf-mould, and Sphagnum Moss, in which it will grow rapidly and flower abundantly. Give plenty of water while growing, but after the flowers are past very little root moisture is needed.

Cattleya gigas.—It is surprising what a difference there is in plants of this species as to their freedom of flowering. To-day (November 28) I have been cutting the blooms from a plant that flowered in the summer and has now made another growth and bloomed again. The reason for cutting is that the growths are not quite so strong as usual. In the same house are plants that apparently will not flower with any degree of regularity, do what one will with them. There can be no doubt that, like *C. aurea* and one or two others, this fine *Cattleya* is better for resting after it has once flowered, but it is better to have it bloom twice than keep on growing without blooming, or only at long intervals. Still it is a question how long a plant will stand flowering twice in a season. I am afraid not long.—H. R.

Miltonia cuneata.—This is one of the most easily grown and generally useful of Miltonias, robust and free flowering, but not particularly constant in its time of blooming. From a light green ovate pseudo-bulb it throws up a tall spike containing about half a dozen or more flowers, each about 2 inches across. The sepals and petals are a dull chestnut, tipped and occasion-

ally lightly margined with yellow. The lip is white, lightly tinged with rose or purple spots. *M. cuneata* may be given fairly large and well-drained pots and a compost consisting of peat and Moss with a few lumps of crocks and charcoal. During the summer months it delights in being kept well up to the light in a very moist temperature, and need only be shaded from the brightest sunlight. Water the roots very freely, and even in winter they need never be dried. An intermediate house suits it best.

Camaridium ochroleucum.—This is a little-known species now-a-days, but a few years back I had several plants of it under my care. The growth is not unlike that of a *Cymbidium*, to which genus it is closely allied. The flowers are of medium size, having very narrow petals and broader sepals, these and the ground colour of the lip being a yellowish or greenish white, the latter prettily marked with brownish red. *C. ochroleucum* is an old garden Orchid, having been introduced from Trinidad as far back as 1823, and under cultivation it does well in a shady, moist part of the East India house during the period of active growth. When the growth is complete, a steadying of the temperature is advisable, the bloom-spikes often appearing at the same time or only just before the young growth. The roots are fairly vigorous, and like a much more substantial compost than the majority of South American Orchids. The plants may be grown in teak baskets or pans.—H.

Lælia albida sulphurea.—This is a delicate and lovely form, but unfortunately difficult to do well for any length of time. The sepals and petals are a pretty shade of sulphur-yellow and the lip is paler than in the type, the front portion a pale rosy mauve. The growth is similar to that of the typical *L. albida*, and the plant may be grown at the coolest end of the Cattleya house during winter; in summer the lightest part of the *Odontoglossum* house suits it well. Where a house is set apart for these *Lælias*, it will be kept intermediate between the above, and makes a suitable place for this species. Very little is needed in the way of compost, and fine plants may be reared on flat or trellised blocks with only a little Sphagnum about them. The roots seem very partial to Moss if it is kept growing and not allowed to get too thick, but the fact cannot be lost sight of that, try how one will, there always will be some plants of this kind unsatisfactory. While growing, it needs abundance of moisture and a good clear light; while at rest the less water it has the better so that the bulbs do not shrivel.

MILTONIA ROEZLI.

This is one of the finest as well as one of the best known of Miltonias, and not being of the easiest culture, an exceptionally thriving lot of plants is always worth noting. Such a lot is now to be seen at Cambridge Lodge, Camberwell, where, from a very small batch of plants a couple of years ago, Mr. Chapman has now a fine bench full of beautiful little specimens, clean and vigorous, with that free look about them that anyone who has had experience with this class likes to see. Respecting autumn potting, the plants are an object lesson just now. Only repotted a very short time since, they are already rooting freely into the new material, and there is no doubt that with this Orchid, as with many more, stagnation is the worst foe to health and vigour. They must be kept moving, and, if repotting is necessary, they must be repotted. Thus small plants have a chance of pushing laterally, and larger ones produce abundance of side breaks, propagation by division explaining the rapid increase. For compost, good peat fibre and Sphagnum Moss are needed. The plants referred to are growing in a bed of Sphagnum, this, where repotting takes place, being about half way up the pots. During the season this, of course, grows very freely, and covers pots, and most of the compost, doubtless, providing in abundance the atmospheric moisture that these Orchids delight in. I have heard

amateurs who have a difficulty in obtaining supplies of Sphagnum Moss object to this mode of culture on the score of expense, but, as a matter of fact, there is a great saving in it, as one can always get a few nice green points for surfacing, and it is equally as good as Moss obtained direct from the bogs. It is better, in fact, for it does not need picking over, and, of course, injurious insects, as slugs and others, are not so liable to be introduced.

A brisk temperature and free exposure to light are necessary for *M. Roezli*, as it is known to be associated in its native places with such species as *Oncidium Krameri* and other heat-loving kinds. But unless the heat is well tempered by abundant atmospheric moisture it is apt to bring insects in its train, and especially thrips, one of the very worst enemies to all this class of Miltonias, such as *M. vexillaria*, *M. Phalænopsis*, and others. It is useless trying to grow the plants if thrips are about them; consequently as soon as any signs of these appear the house must be fumigated at once, the fumigation being immediately followed by sponging. Both these operations must be well followed up until a clearance is made of the thrips. Many growers have a very careless method of sponging their plants, and this when an insecticide is used often leads to the surface Moss dying. The plants should first of all be dipped into clear, soft water, roots and all, this driving the insects out of the compost. Then dip the heads into the pail or tub of soft soap, or whatever is used—this and tobacco juice well diluted are the best for thrips. Go over the plants leaf by leaf after they have lain on their sides for a time to allow of the soap running away from the compost. If it runs down among the peat and Moss it encourages a troublesome fungus, especially when cheap foreign labels are used. The neat little disc labels now often used are so effective and cheap that it is surprising the older and clumsy method is so much in vogue. Besides the type with white blossoms and a purple centre, there is a pretty albino form of *M. Roezli*, this being now fairly plentiful. The species is named in compliment to its discoverer, M. E. Roezli, who is said to have first met with it a long way from its habitat, floating down one of the swift mountain streams in New Grenada attached to its native tree. A few years afterwards it was discovered and sent home by other collectors, and is now plentiful. H.

Catasetum callosum.—This is a quaint-looking species of very unusual colour, and quite distinct in its peculiar gradations of pink, brown, and emerald-green. Like others in this genus, it is of very remarkable form. The plant is not particularly difficult to grow. During the growing season it likes a moist, warm house, and should be kept well up to the light. After flowering, until growth again starts, it may be kept quite dry in an intermediate temperature.

Cœlogyne barbata.—Flowering before the varieties of *C. cristata*, and keeping up a display over a considerable time, this *Cœlogyne* is worth a place in all collections. The plant is not at all difficult to grow, liking an intermediate or cool Cattleya house temperature and a shady moist position. The growth is vigorous, and the roots delight in a rough, open compost in which the ingredients are kept well apart, and a little leaf-soil mixed with the usual peat and Moss is a good addition. Plenty of water is needed while growing freely, and no drying off need be practised.

Masdevallia macrura.—I have noted this fine species in flower during the week, and it is certainly one of the best of all *Masdevallias*. The tube formed by the sepals is tawny yellow, the open portion covered with purple spots, the tail yellow. Being so strong in growth, it is, perhaps, as easy to grow as any *Masdevallia*, and may be cultivated in rather larger pots than usual, these being filled with rough, open compost kept always very sweet and open. It thrives in the cool house, needing plenty of water all the year round. It is a native of New Grenada, and was sent home to Mr. Bull by one of his collectors in 1876.—H. R.

LELIO-CATTLEYA DOMINIANA AND ITS VARIETIES.

THIS, the last of the twenty-five hybrids raised by Mr. Dominy, flowered for the first time in 1878, and was described by Reichenbach as *Laelia Dominiana*. For its richness of colour it surpasses all of that raiser's productions. This and the recently-raised forms, which have proved the doubtful parentage that originally existed, are without doubt the finest of the hybrids of the *Cattleya* family that have yet been seen. The two original plants have for many years formed unique specimens in the collection of Baron Schroeder, The Dell, Egham. There is no record of the original plant having been exhibited, but the variety *L.-C. Dominiana rosea* was awarded a first-class certificate by the Orchid committee of the Royal Horticultural Society on June 24, 1884. A full description of the plant was given in THE GARDEN report of that meeting. The second to raise this cross

long remained with regard to parentage. The subject of the accompanying illustration, *L.-C. Dominiana langleyensis*, was raised by Mr. Seden, and is the result of crossing *Laelia purpurata* and *C. Dowiana*. It was exhibited at the Drill Hall meeting of the Royal Horticultural Society on October 11 last, when it was awarded a first-class certificate. As a variety it is certainly distinct from any of the forms previously seen, and is by no means inferior to them. Like most other hybrids where considerable variation exists among the parents, the offspring naturally retains the variable characteristics, which no doubt account for the distinctive features seen in the subjects of this note. There is perhaps no species of the *Cattleya* family that is more variable than *Laelia purpurata*. In *L.-C. D. langleyensis* the sepals are pale rose, mottled with white, the petals pale rose, suffused with a darker shade, the broad, finely-shaped lip deep crimson-purple, with a darker shade of crimson in the centre.

paintings of the certificated flowers something might be done to prevent such occurrences in the future. Owners of plants also might assist by consulting one or other of the numerous lists of hybrids that have been published before naming any of their seedlings. C. J. H.

Lycaste lanipes.—Though one of the least showy of the *Lycastes*, this species is pretty and well worth growing. It is very free-flowering, the individual blossoms about 4 inches across, the sepals greenish white, the petals pure white, the lip white and prettily fringed. Grow it in a cool, moist house in a compost consisting of equal parts of peat fibre, loam and chopped *Sphagnum Moss*. Water must be freely applied all the year round, especially while the growth is most active. Light sprinkling overhead is of great assistance in hot weather, keeping the foliage cool and moist and preventing insect attacks.

Cœlia macrostachya.—This species is not much grown, but the pretty feathery spikes of bright rose flowers, each with its attendant silvery bract, make it quite worth a place. A fine plant now in flower has half a dozen spikes, and against the deep green foliage they have a very pretty effect. It is an easily-grown kind, but will not flower satisfactorily unless the plant is allowed to rest naturally. I stand it in a cool Peach house when the growth is complete, and when again placed in a little warmth towards autumn, the stiff scaly spikes soon make their appearance. It is strong growing and likes a fairly large pot and a sound, open description of compost.—H.

Maxillaria picta.—When well grown and flowered this old species is certainly worth a place if only for its distinctness. The peculiar combinations of yellow and purple with red are not to be seen in any other kind, and the flowers have the additional advantage of being very long-lasting. *M. picta* makes the best growth in a temperature slightly lower than that of the *Cattleya* house. The growth must be shaded from bright sunshine, and the plants may be potted in equal parts of peat fibre, loam, and chopped Moss. Damp the leaves lightly overhead in the growing season.

Cypripedium niveum.—

The blossoms of this species, though small, are extremely pretty and interesting, the pure white of the segments when seen at a little distance showing up well against the mottled foliage. A closer view reveals the spotting, and this is also delicate and pretty. A native of Siam, it delights in ample warmth, and though shade is undoubtedly necessary, it thrives admirably when grown in small pans and kept well up to the light. A few bits of limestone may be mixed with the compost, which must also contain a little light loam. Drain the pans well, and if not particularly well rooted, keep the plants up a little in them and water carefully all the year.

Oncidium crispum.—This fine autumn-flowering *Oncidium* is still in good condition, and I have noted it on several occasions flowering finely. Keeping the spikes on plants that are expected to do well greatly distresses them unless really strong and well established. Grown on rafts or in baskets not far from the roof glass in an intermediate house, this plant grows and attains more strength annually, though allowed to flower, provided the spikes are removed after



Lælio-Cattleya Dominiana langleyensis. From a photograph by Mr. J. Gregory, Croydon.

was Mr. F. Hardy, of Tyntesfield, near Manchester, who sold part of his plant to Mr. G. W. Law-Schofield, who exhibited his plant at the Temple show of 1897, when it received a first-class certificate as *L.-C. tyntesfieldensis*. The parentage was unknown, but little doubt existed that it was a form of *L.-C. Dominiana*. THE GARDEN report of the above certificated plant gives the required details. *L.-C. Apollonia*, raised by Mr. J. Douglas, was exhibited on November 24, 1896, when it received an award of merit. I have recently seen this plant in flower. It is a most distinct and handsome variety, the sepals and petals being rose, beautifully mottled with white; the lip rich velvety crimson in front, the side lobes lighter and thickly lined throughout with yellow and white lines. The intermediate characteristics of the two parents are so pronounced, that little doubt now remains as to its origin.

It has been left for Messrs. J. Veitch and Sons to clear up the uncertainty which has so

The outer edges are beautifully corrugated and margined with rose, the side lobes crimson, suffused with brown at the base, where it is thickly covered with bright yellow lines. The flowers on a four-flowered raceme were fine in substance and in form. It is certainly one of the best hybrids that has ever been raised.

Now that the parentage has at last been defined, it is to be hoped that the original name of *L.-C. Dominiana* may be adopted, and all the above-mentioned which have been certificated, classed as varieties only. The plurality of names in the nomenclature of hybrids is most confusing. The Orchid committee of the Royal Horticultural Society cannot claim to be blameless in this matter. They have their rules for guidance, but I am sorry to say they have been obeyed more in the breach than in the observance. Seedlings from crosses that have been previously recognised have been in some instances certificated four or five times over. Surely with careful records and the

a reasonable time. Very little compost is needed, as the roots are easily injured by anything sour or close.—H.

LATE-FLOWERING LÆLIO-CATTLEYAS.

THERE is not a more interesting or useful class of hybrids of the Cattleya family than those which flower during the autumn months. This section of late years has been considerably increased by the introduction of many beautiful forms, which have almost entirely filled up the time between the late summer and autumn, and help to keep up a continuous succession of Cattleya bloom throughout the year. From *Lælia Perrini* the late-flowering hybrids have mostly been derived. These flower through the months of October, November, and December. A note on the best of these may be interesting, and as they are now within the reach of most Orchid growers, they should be much more extensively grown.

LÆLIO-CATTLEYA LADY ROTHSCHILD is, perhaps, the best of the group. It is the result of intercrossing *L. Perrini* and *C. Warscewiczii* (*C. gigas*). The sepals are almost white, having a slight suffusion of rose, the petals darker than the sepals, the lip rich crimson-purple, with the yellow eye as seen in the pollen parent. The side lobes are rose, with some yellow lines towards the base. The flowers are of fine form and substance. It was raised in Messrs. J. Veitch and Sons' nurseries, where I recently noted it coming into flower.

L.-C. DECIA is an interesting and useful hybrid, the result of intercrossing *L. Perrini* and *C. Dowiana aurea*. It has the intermediate characters of these species both in habit of growth and in the flowers. The sepals and petals are rose, mottled with creamy white, the ground colour of the lip rose, suffused with crimson-purple on the front lobe. The side lobes are open, the ground colour rose-purple, thickly covered with numerous longitudinal yellow lines.

L.-C. STATTERIANA is the result of crossing *L. Perrini* and *C. labiata autumnalis*. It is one of the most distinct and beautiful of the intermediate-sized Cattleya hybrids. The two parents are remarkably blended in the flowers. The sepals and petals are bright rose, of fine form and substance; the front lobe of the lip rich velvety crimson, becoming lighter at the base, and through the throat it has several light yellowish lines.

L.-C. SEMIRAMIS (*L. Perrini* × *C. Gaskelliana*) flowers earlier than the above-mentioned hybrids, and is perhaps the finest shaped flower of the section, but is not so beautifully marked on the lip as some of the others. The sepals are of fine form and substance, rich rose-lilac, the front lobe of the lip crimson-purple, the side lobes rose with some yellow at the base. It has the intermediate characteristics both in the habit of growth and in the flowers. STELIS.

LÆLIA ACUMINATA.

A good form of this species is well worth growing, as it is quite distinct from the other Mexican species. The flowers are variable in colour and several varieties are known, but that usually considered the typical form has very pale rosy blossoms, produced on semi-erect spikes about half a dozen on each. The lip is stained with yellow, and has a deep maroon blotch in front of the column. Being of dwarf habit the plants do not care for a large receptacle or a close, heavy body of compost, and rafts suit them as well as anything. Baskets almost filled with crocks and surfaced only with peat and Moss are also suitable, and I have seen it doing well on blocks of rough Apple or Pear wood, the bark being left on. The only fault of the latter plan is that insects of various kinds find in the bark congenial quarters, otherwise the natural roughness suits

the roots well. In placing the plants on these blocks, a little Moss may be put round the base of the bulbs with advantage, as it serves to keep a little moisture about them, but when they are well established the bark alone is sufficient to keep them right if frequently dipped. They like, in fact, to be dry for an hour or two almost daily, and afterwards to be thoroughly saturated with moisture, the water being used in a tepid state. All through the growing season the roots may be very freely watered, daily attention being needed if the latter plan is followed, as, owing to the free supplies of air, they dry rapidly. Besides this, the sun may be allowed to shine almost directly upon the plants, the leaves being of that leathery, hard texture that will stand plenty of light. Only in the height of summer weather is shading necessary, and this only in the middle of the day. This is, of course, when the *Lælias* themselves are considered; when other plants are grown in the same house their wants have also to be studied. During winter much less, of course, is needed, and as long as the pseudo-bulbs keep plump no harm will come to the plants. The temperature in winter will not need to be high, a night temperature of 55° being ample, and a few degrees less will suffice in cold weather. In summer the sun will naturally raise it rather high, and this will do no harm provided free ventilation is allowed. Overhead watering is not required, and if in the least overdone, the water is apt to gather at the centre of growth, this often leading to damping of the spikes in autumn. The plant is somewhat widely distributed over Guatemala and Mexico, but not so frequently imported as the other Mexican kinds, so probably it is scarce there. It was first flowered by Mr. Barker, of Birmingham, about 1841, when it was described by Dr. Lindley. H.

Odontoglossum Cervantesi membranaceum.—Though no larger in growth than the type, this variety produces much finer flowers and is certainly more difficult to grow. In a small importation from Guatemala a few years since I flowered one or two plants of this variety, but have never been able to do much with them, though the type form thrives in the same house and under the same conditions. Whether the fact of its usually occurring further south has anything to do with it or not, I cannot say, but it does no better with increased warmth. These small-growing kinds are very easily checked by mistakes in ventilation or by sudden changes in temperature, and the best way to grow them is suspended in small pans or baskets within a few inches of the roof glass. Here they get the full benefit of the air currents and are not, as a rule, exposed to direct draughts, while the light plays freely about them during dull wintry weather. The roots should be kept moist all the year round, any drying off being followed by shrivelled bulbs and weak growths.—H. R.

Oncidium cheiophorum.—It would be difficult to name a prettier or more useful cool house *Oncidium* than this. The plants can be bought at a fairly cheap rate; they are easily grown and flower most abundantly. In habit the species is dwarf, the pseudo-bulbs only about an inch high, the whole plant with flower-spikes seldom exceeding a foot. The colour of the flowers is a clear bright yellow, always a favourite tint for winter decorations. *O. cheiophorum* should be planted in small pans or pots in a compost of about equal parts of peat and Sphagnum Moss over good drainage, and this may be raised on a slight cone and carefully and neatly clipped off. It does well in a house devoted to such plants as *Odontoglossum grande* or *O. citrosum*, but if no such one is at command, it does very well with quite the coolest section. It is an admirable little species for finishing off the front of a group

of flowering Orchids, being dwarf, light and elegant. It makes better and larger specimens if several plants are massed together in a pot or pan, though here care is especially necessary in watering during the winter. Keep it at the warmest and lightest end of the house to consolidate the little bulbs and keep the water supply going until these are quite made up.

Cattleya Holfordii.—Excepting in name, this differs little, if any, from the old and little-known *C. luteola*, and the flowers to hand from "*C. C.*" are those of an entirely different species—*C. velutina*. The largest flowers of Holfordii are not more than 2 inches across, bright yellow on all the segments, the lip having a margin of white and radiating lines of crimson-purple to the side lobes. In habit it is perhaps the dwarfiest of the true Cattleyas, seldom exceeding 6 inches in height, and the short flower-spikes usually carry about three or four blooms. Such a plant will naturally require treatment somewhat different from that given to those stronger-growing kinds, such as the *labiata* group, and though coming from the same regions, will not stand the same extremes of heat and cold or so much sunlight. I have been most successful with it in a house where *Pescatoreas* and *Warscewiczellas* flourish, that is in a slightly higher and moister temperature than the Cattleya house proper and with considerably more shade. Here it rests but little, and often makes a couple of sets of growth in one season, flowering most regularly upon the stems made during the summer and autumn months. The plants may be grown in equal parts of peat fibre and Moss in suspended pans, the limited size of these receptacles suiting the roots well. The plants also do well in baskets, but if these are used they should be wide rather than deep and thoroughly drained. *C. luteola* (Holfordii) comes from the upper regions drained by the Amazon, and appears to have been first grown in this country in the York nurseries, where it flowered about 1853.—H.

FLOWER GARDEN.

PRIMULA CAPITATA OUTDOORS.

THERE are more than forty species of Himalayan Primrose described in "*British Herbaria*," but not more than half a dozen of them are truly hardy and capable of taking care of themselves in the open air through English winters and summers. A few others are grown in an intermittent sort of way with the help of a greenhouse or frame, but the larger portion seem unwilling to adapt themselves to any conditions yet tried in cultivation, even if worth the trouble of cultivating. In mentioning *P. capitata* (Hooker) I speak entirely from my own experience, having had it annually flowering in large quantities in my garden in Cheshire for about twenty years. Still, I have always found it troublesome and wayward, and it is not truly hardy. It is found wild on the Himalayas of Sikkim at elevations of about 15,000 feet, and I have once or twice raised it from seed collected wild, and distributed either from Kew or from the Calcutta Botanic Gardens; but nearly all my raisings have been from seed collected in my own garden. Though it seems perennial by nature, its habit with me is biennial, that is to say, it flowers the second year and never survives a winter after flowering. Its life history at Edge is as follows: Seed is sown under glass as soon as ripe—about the beginning of September. It comes up abundantly and is kept growing on in a cool frame, just free from frost, all winter. At the end of winter it is pricked off into wooden trays 4 inches deep, perhaps fifty in each tray, and kept growing in the cold frame till May, when the whole tray is turned out and planted

where it is to flower, without disturbing the soil. The soil is fine sandy loam and the situation sheltered, raised beds, sloping either to the east or north, but, provided plenty of water is given



Primula capitata. From a photograph by Miss Dod, Edge Hall, Malpas, Cheshire.

through summer, aspect matters little. The flowering begins towards the end of July and continues till a hard frost checks further growth, perhaps late in October, successive umbels being thrown up until, at the end of the season, a good plant will have seven or eight umbels in various stages of development. A dry summer is an abomination to this species, and causes many of the stock to wither up, as no watering is as good as showery weather and damp atmosphere from a rainy quarter. The roots are remarkably thin and frail, and a very little force, even a high wind, breaks away the top from its hold in the ground. No attempt is ever made by *P. capitata* to form a winter bud, such as is made by *P. denticulata*, *P. rosea*, *P. farinosa*, and *P. sikkimensis*, four of the most easily cultivated Himalayan kinds. The leaves of this in many cases continue green and horizontal to the end of winter, but sooner or later the whole tuft breaks away from the roots before any spring growth commences. Now and then I notice one or two self-sown seedlings where a clump has been grown; these come up in spring or summer and live through winter and grow on, but I do not observe that they flower any earlier than those sown under glass in autumn. C. WOLLEY-DOD.

Edge Hall, Malpas.

ZAUSCHNERIA CALIFORNICA.

Writing in THE GARDEN some time ago about *Plumbago Larpentæ*, I referred to the exaggerated expectations entertained of its success in British gardens. Of a plant introduced about the same time, but from the New World instead of from China, one has occasion to remark that equally roseate views were held of its future value in the garden. This plant is *Zauschneria californica*, seeds of which collected by Hartweg near Santa Cruz, California, were introduced into this country in 1847, the plant being spoken of in the "Journal

of the Royal Horticultural Society," vol. iii., p. 241. It is referred to by the gardening press of the time as one of the bedding plants of the future, and one which no one would consider unsatisfactory. Looking at it from the experience of the fifty years which have elapsed since its introduction, we are amused to read the confident words of an eminent horticultural writer of that day: "I shall pledge my word, however, that no one who will buy the two plants that I shall name to-day will ever feel a disappointment respecting them." The "two plants" were *Plumbago Larpentæ* and *Zauschneria californica*. As a flowering plant in the generality of gardens, *Z. californica* is a decided disappointment.

In cool parts of these islands it rarely flowers, but one was rather surprised to observe, from a recent note in THE GARDEN, that a Cornish correspondent found it very unsatisfactory also. One would have thought that this Californian *Fuchsia* would have found a warm enough climate in so southern a latitude. It would be rather interesting were those who succeed in flowering this *Zauschneria* regularly to compare notes with those who count it among their failures, not that it is easily lost, but because of its objection to opening its flowers in many gardens. I can speak of it with painful experience, as for ten or more years I have been hoping against hope and seeking in the most likely places I could think of to persuade my plants to flower. I have asked and have been asked many questions about its conduct in gardens, and grieve to say that in the vast majority of instances nothing but a tale of disappointment has been to tell. Buds appear giving promise of flowers, but the promises prove illusory and the buds drop off ere they can open.

It is much to be regretted that one can only speak in so hopeless a strain of this *Zauschneria*.



Carnation Countess of Paris. From a photograph sent by Miss Katherine Corlett, Nantwich, Cheshire.

Its *Fuchsia*-like scarlet flowers would be a gain to our borders and rock gardens could we persuade them to come yearly to please us. It may be said by the reader, *cui bono*? If we cannot tell how it may be flowered, why speak of it at all?

The answer is surely a sufficient one. The plant is regularly offered for sale; its colour, character, and time of flower are all attractive to read of. One can only hope that a timely warning may induce some who think of growing this plant to leave it alone and content themselves with something which will annually return by wealth of flower a recompense for the space and care it requires. S. ARNOTT.

Carschorn, by Dumfries, N.B.

CARNATION COUNTESS OF PARIS.

THE stock from which this bed of *Carnation* originated consisted of three plants of *Meta* and two of *Countess of Paris*. They were weak layers, planted after the middle of November, 1895. During the early part of August, 1896 and 1897, every shoot available was layered into a compost of burnt refuse, leaf-soil and plenty of sand. The soil is a poor sandy loam, nearly all sand. It received a light dressing of manure and burnt refuse and a slight dusting of soot to prevent worms disturbing the newly-planted layers. In 1897 the layers were planted on October 4, and had no dressing or stimulant of any kind. They received a heavy watering two or three times while the buds were swelling. This culture is practised here with all varieties of border Carnations. All are planted as early as possible in autumn. They are never grown on the same ground more than two years together. Probably the success I have had with Carnations may be attributed to early layering and firm and early planting on fresh, sweet ground. They receive no protection of any sort. K. C.

Sowing Sweet Peas in autumn.—It is now upwards of forty years since I first saw Sweet Peas sown in autumn. They nearly always do well, and commence flowering from the middle of May. At present I have a row sown in the open quarter just coming through the ground. The one protection they require through the winter is the soil drawn up on each side of them. Should birds be troublesome, protect with Pea guards.—RICHARD NISBET, *Market Drayton*.

***Tropæolum Lobbianum*.**—I have seen nothing prettier this summer than a house covered on one side with this *Tropæolum*. The plants were trained on a trellis fixed to the house,

and were so late as the middle of November a mass of bloom, which forcibly illustrates the abnormal mildness of the autumn, for in a general way tender things are in this part of Surrey cut off by the middle of October, and not infrequently

much earlier. There is something very attractive about *T. Lobbianum*, the deep green foliage, which is by no means coarse, contrasting finely with the glowing tint of the flowers. When this variety is used in the open air, it should be set out in tolerably rich ground, as it does not go away with such freedom as the common *Nasturtium*, and in poor soil is apt to become stunted. For covering a trellis, for window boxes or for planting in conservatories this *Tropæolum* is one of the most useful things one can employ, the immunity which it enjoys from insect pests being a great point in its favour.—J. C. B.

NOTES ON HARDY PLANTS.

Selaginella denticulata.—With regard to the hardness of this I have had a long experience, and yet in every case of a special planting it has failed to live through a winter, whereas bits that have found their way into the garden or garden walks from greenhouse plants that were being stood outside in the summer have often grown and lived through the winter. In one place especially sheltered from N. and E., and where the soil was more like gravel, I have always been able to find healthy pieces. In speaking of a plant of this kind I would always make a point of observation of difference between specimens that seem fresh and green in March and those that may remain healthy and make new and vigorous growth in summer, because it is often that reputedly hardy succulent species may seem promising in early spring and then die off suddenly. My experience with this plant has been both ways in the same season, and so it seems to me that other conditions besides those of the weather have something to do with the hardy culture, and because I have always found the healthier plants in spring to have self-selected positions, those invariably in the garden walks or loose plunging material, as ashes, sand, or burnt clay. I think the crucial point of culture may be sought in the rooting medium. I am not confounding *S. helvetica*, another and perhaps more hardy species, with *S. denticulata*, though I believe when both are grown out of doors they more nearly resemble each other than when compared, as they more often may be, the former from the open and the latter from a greenhouse, and it is precisely because of the improved and pretty habit of *S. denticulata* when grown out of doors that it may be worth establishing as a hardy plant. To start it perhaps there can be no better way than to stand in garden walks old fruiting plants of it from the greenhouse in early summer. The spores soon germinate and dot the surface with green quite as freely as *Marchantia*; at least, it is so here. *Marchantia* with me is a pest, while in many gardens it cannot be induced to grow. May not these unknown conditions have some influence on *Selaginellas*?

Primula capitata.—By this I mean the true *P. capitata*, and not the variety of *denticulata* sometimes so-called. This is almost the only thing here that can be said to yet have fresh flowers, so that for a species which blooms so long it claims a more than passing note.

Colchicums not flowering.—It does not seem to be generally known why these fail to flower abundantly. I say abundantly, because I take it that all the *Colchicums* are free bloomers, and yet like nearly everything else their habit needs to be qualified, especially when in a garden of deep rich soil. Perhaps the deeper and richer the soil the fewer the seasons of plenteous flowers in succession. It happens in this way: Every year the corms or tubers make a bound deeper, so to speak, until they get so far from the surface as to get less vigorous. This can be proved by anyone who has old clumps. If dug up they will be found at a far greater depth than ever they were set or anyone imagining they ought to be set, and the bulbs much deteriorated in size. My practice is to lift every third year any kinds I consider worth the trouble, and the effect the first year is most remarkable; not, of course, in getting more flowers the first year, as that could

not be, but in the extra size that the tubers attain from being brought up to, say, within 2 inches or 3 inches of the surface in fresh soil. The following year the flowers are as abundant as the most sanguine could ever expect. All this is not prophecy, but the simple results of many years' practice.

Two handsome fruiting creepers of a dwarf habit, and in the last month of the year to be seen in the rock garden to advantage, are *Vaccinium Vitis Idæa majus* and *Gaultheria procumbens*. In both cases the evergreen foliage with the blended warm tints of brown and red may be reckoned upon to produce a good winter aspect for rock gardens. J. Wood.

Woodville, Kirk-stall.

WINTER MULCHING OF PERENNIALS.

ALTHOUGH all those inmates of our gardens known as hardy plants or perennials will come safely through the majority of winters, there are exceptional seasons when some of them will either be killed outright or so mutilated that they do little good the following year, and so it is well to be on the safe side, and if there is a suspicion as to the hardness, to place a good thick mulching about the crowns not later than the first week in December. I was never, for instance, in the habit of giving any protection to outdoor *Fuchsias*, but, having lost many in the very severe season some four or five years ago, have always practised it since. Where stools of these have remained in the same situation for several years and the central parts are gone, or there is a tendency to weakly growth, they should be lifted at the present time and the strongest bits replanted, placing the mulching about them as soon as this is effected. I have always mulched my clumps of *Gypsophila*, and so am unable to say if this is perfectly hardy or no. One or two bits that escaped notice perished in the winter that proved fatal to the *Fuchsias*. Where *Montbretias* have been late lifted and replanted, I should not advise present mulching, as a spell of cold keeps the young growth in check whilst yet under the ground, but when this makes its appearance in the early year after a spell of warmer weather and cold again follows, a mulch is very beneficial if early flowering is required. Once planted in any particular spot, the annual reappearance of *Nicotiana affinis* can be guaranteed by the aid of a thick winter covering. I find, on the other hand, it is always destroyed if frost penetrates to the fleshy roots. The desirability of annual lifting or non-lifting of the varieties of perennial *Lobelia* has often been discussed, and from the various notes it would appear that it is more a question of situation and atmospheric influence than danger from frost. I have never lifted except when the stock had to be increased; this has always been replanted in autumn and a thick winter mulching invariably applied. So far as those popular inmates of the garden, *Carnations* and *Tufted Pansies*, are concerned, there is not the slightest reason to suppose that a winter covering of the ground is necessary as a protective agency. It is, however, necessary, if not absolutely essential, in securing good results on all light soils, as the rains of winter are thereby retained, and the additional moisture with the slight stimulant afforded by the manure is highly beneficial. Other forms of mulching that often have to be considered if the stock of perennials is large and varied are a liberal covering of rather rough ashes about and around the young growths of plants for which slugs have a decided partiality, and in the case

of early flowering bulbs protecting the foliage and buds to partially anticipate the opening of the flowers. E. BURRELL.

CHRYSANTHEMUMS.

NEW JAPANESE CHRYSANTHEMUMS.

As usual the number of novelties this year is enormous, and the difficulty of selection must be exceedingly great to those growers who have not the opportunity of visiting personally the various floral meetings and the trade displays. After having paid visits to a great many places, I have come to the conclusion that the best exhibition novelties for next year will be found in the following selection, viz.:—

MISS MARY UNDERHAY.—This ought to become a favourite, as it is one of the best of the Japanese incurved type that has been raised in the colonies. The florets are of medium width, grooved, and of good substance. The colour is a rich, clear shade of pure yellow.

MRS. ERNEST CARTER. Japanese, has long drooping florets, very closely arranged. The colour is a very delicate shade of clear, deep primrose-yellow.

LORD CROMER. Japanese, has long, medium-sized recurving florets, blooms large; colour rich velvety reddish crimson, very dazzling in tone, reverse golden.

MRS. W. MEASE is the finest of the Carnot family; a lovely pale shade of primrose or sulphur-yellow.

MRS. WHITE POPHAM.—Very large incurved Japanese, with broad, grooved, pointed florets; colour pale purple-mauve.

LADY PHILLIPS.—A bold incurving Japanese, big and solid in build, very broad florets; colour pale mauve, reverse silvery pink.

PRESIDENT BEVAN.—Japanese incurved, a fine closely built flower, with sharp-pointed florets, deeply grooved; deep yellow, shaded bronze.

MME. COUVAT DE TERRAIL.—Japanese; the florets are long, twisted somewhat after the *Good Gracious* type; colour white, tinted in the centre.

LE GRAND DRAGON.—Japanese; large blooms, with long drooping florets of medium width; colour rich deep golden yellow.

MISS NELLIE POCKETT.—Japanese of colonial origin, with very narrow grooved florets, incurving and pointed at the tips; a closely built flower; colour pure glistening white.

CHATSWORTH.—A Japanese from the same source as the preceding. It has long, narrow, drooping florets forming a very deep flower; colour white, streaked with pinkish purple.

PURPLE EMPEROR.—A very fine deep type of Japanese, but not over large; the florets are of medium width and grooved. The colour is a velvety shade of plum-coloured amaranth with a reverse of silver. Also a colonial.

MR. T. CARRINGTON.—A worthy companion to such flowers as *Pride of Madford* and *Australie*, to both of which it bears a family likeness. It is a massive Japanese incurved, with long florets of medium width, grooved and pointed at the tips; colour deep bright purple, reverse silvery pink. Another colonial.

JANE MOLYNEUX.—A large Japanese with very long florets; a flower of great depth; colour creamy white.

SIR HERBERT KITCHENER.—Another gigantic Japanese with florets of medium width, long and drooping; colour rich shade of golden chestnut, reverse golden.

MISS MARY LESCHELLES.—A very pure white sport from *Reine d'Angleterre*, which it resembles in every respect save the colour.

EMILY TOWERS.—Japanese, with medium-sized florets, incurving in the centre; colour rosy lilac-mauve, reverse silvery pink.

R. HOOPER PEARSON.—A Japanese of colossal dimensions, with rather broad florets, curly at

the tips; colour very rich shade of golden yellow, with paler reverse.

MRS. COMBE.—A Japanese; florets long and drooping, blooms large, very full and double; colour deep rosy mauve.

C. HARMAN-PAYNE.

AUSTRALIAN CHRYSANTHEMUMS.

It is now some few years ago since I first drew attention in the columns of THE GARDEN to the progress that was being made in Australia and New Zealand in the raising of new seedling Chrysanthemums there. It was also only natural to suppose that these novelties would in due course be imported into England, and it is interesting to record that during the present season large numbers of them have been seen in very good condition at most of our trade displays.

The following list is compiled from notes made from those blooms that have been seen in the best condition, and the record is, I think, a valuable and interesting testimony to the skill of our colonial colleagues:—

WONDERFUL.—A Japanese incurved of the Wheeler type, with broad florets: colour velvety purple-crimson with straw reverse.

J. BIDENCOPE, if not actually of Australian origin, is, at any rate named after an Australian grower. It is a purple-amaranth Japanese, with silvery reverse.

MRS. BISSETT.—A Japanese, the florets slightly incurving; colour white, slightly tinted.

G. KERSLAKE, JUN.—Has very long florets. It is a Japanese, the colour white.

MISS VERA MAY FRASER.—A Japanese incurved, with broad grooved florets; colour a very fine shade of warm terra-cotta, reverse golden.

MASTER H. TUCKER.—Japanese; colour deep velvety bright crimson, reverse golden.

OCEANA.—A well-known yellow.

MISS NELLIE POCKETT.—Very pretty Japanese with very narrow incurving florets, grooved and pointed at the tips; colour pure glistening white.

JOHN POCKETT.—A deeply built Japanese incurved, with rather broad florets of a very rich shade of deep golden bronze or chestnut, reverse gold.

PRIDE OF MADFORD is too well known to need description.

AUSTRALIE.—The same remarks apply to this one.

PRIDE OF STOKELL.—A sport from Pride of Madford, in colour a deep velvety crimson with golden reverse.

MABEL KERSLAKE is probably a synonym of the preceding, being a crimson sport from Pride of Madford.

AUSTRALIAN BELLE.—A Japanese, with very long tubular florets; colour deep rosy pink.

MRS. C. BOWN.—A Japanese of good size; colour white.

PURPLE EMPEROR.—A very finely formed, deep, compact flower of the Japanese type, florets medium sized and grooved. The colour is a beautiful velvety shade of plum-coloured purple, reverse silvery.

CHATS WORTH.—A Japanese, with very long, narrow drooping florets forming a deeply built flower; colour white, streaked pinkish purple.

MR. T. CARRINGTON.—A worthy companion to Australia and Pride of Madford. It is a Japanese incurved with long, medium-sized florets, grooved and pointed; colour deep bright purple, reverse silvery pink.

THE CONVENTION.—Japanese incurved with long pointed florets; a globular flower; colour deep golden terra-cotta lined with bronze inside.

MRS. G. A. HAINES.—A Japanese, with rather small, broad incurving florets; colour golden bronze, reverse gold.

MRS. J. T. TIBBS.—A white sport from Lilian B. Bird, raised in New Zealand.

MRS. H. B. HIGGINS.—A very large Japanese, medium-sized florets; colour very delicate creamy white.

MISS MARY UNDERHAY.—One of the best Japanese incurved, florets medium-sized, grooved and incurving; colour a rich shade of yellow.

EUTERPE.—A short-petalled Japanese, the florets pointed, grooved and rather broad; rosy mauve with a reverse of silvery pink.

MRS. H. BRISCOE.—A Japanese of large size with very long florets; colour bright rosy mauve, silvery reverse.

BEAUTY OF ADELAIDE.—A Japanese with great length of floret; colour dull rosy pink.

MRS. ERNEST CARTER.—A Japanese of fine form, long, closely-arranged drooping florets; colour a pretty, pure shade of deep primrose.

A GROWER.

PURPLE CHRYSANTHEMUMS.

PURPLE Chrysanthemums have been much improved of late years, and many of the old undecided shades have long since been pushed aside for the higher and brighter tones that have been introduced. As crimsons have almost always a golden reverse, so the purples and amaranth-coloured varieties have usually a silver reverse—a contrast that is at once effective and pleasing. Some of the best of these are not over large, and therefore are likely to be passed over by the exhibitor. To anyone, however, who desires something striking and useful in the various shades of purple and amaranth there is a very good selection, and among recent novelties may be mentioned Mme. Robert de Massy, a very fine shaped Japanese that bids fair to become a favourite. Congrès de Bourges is another. Souvenir de Mme. F. Rosette and Werther are also good. Deuil de Jules Ferry, although a very telling colour, seems to have passed away already, although only of comparatively recent introduction. Reine d'Angleterre is paler than any of the preceding and not one of the best. Mme. Marius Ricoud is wonderfully bright, and is a pinkish kind of purple when well coloured, as it often is. All the above are seedlings of M. Ernst Calvat's raising.

Some of the Australian novelties are of rather dull shades, Mr. T. Carrington and Australia for instance, but they are very large. Pride of Madford is brighter and richer, and also has the merit of size. Purple Emperor is grand in its deep rich velvety shade, and has only to be seen to be admired. This is also an Australian novelty. Mrs. White-Popham belongs to the paler type. It is very large and likely to be of service as an exhibition flower. The Barrington is an American novelty of the incurved type, but the florets are rather too flat to make it a really pretty flower. J. Bidencope is fairly well known. There are many others in the paler tones of lilac-mauve and pinkish lilac, but these, unless very bright and clear, are apt to become somewhat washed out and lose much of their effectiveness.

C. H. P.

Highly coloured Chrysanthemums.—The note by "A. D." (p. 423) having reference to the richly coloured Lord Cromer recently certificated is to the point. There is, indeed, a lack of such shades as the one named can boast of. At the same time there is more hope of getting good things even of this hue now, as witness the recent novelty, John Pockett, which "A. D." appears to have overlooked. This is also a very fine flower and good in form, scarcely up to the standard of Lord Cromer, and some way behind it in point of colour. The colour in the last-named could scarcely be over-estimated, and anything that will surpass Lord Cromer in this respect will be indeed rich.

Chrysanthemum Mlle. Lacroix.—This, to my mind, is one of the best for cutting; the pearly whiteness and the whorl of the petals make it distinct from all others. As a decorative variety it stands unequalled, there being a freedom in its branching growth, ample, though not exuberant, foliage, and a stalk of sufficient length to suit all purposes. Excessive disbudding of the side shoots and flower-buds, to my mind, spoils it as a decorative or vase flower; with a central and three or four side buds it presents a much more graceful aspect than occurs under severe disbudding. It has long since passed out from the position it once held among show flowers, but I think it will still continue to be largely grown for cutting. While this has been so good this year, Lady Selborne, on the other hand, has been in my case distinctly inferior to what it has been in other years, and the superiority of Mlle. Lacroix is so

marked, that I have almost decided to discard Lady Selborne and increase the numbers of the other. I should not do this but for the fact that there is not much difference in the time of flowering, and the greater substance of the one over that of the other makes it possible for the season of one to extend over the time of both. This is the decision arrived at in my case.—W. S.

CHRYSANTHEMUMS FOR THE BORDER.

THE present season has been favourable for outdoor Chrysanthemums and they have lasted well. Many of the varieties noted are free-flowering Japanese, bright in colour, effective in the open ground, and useful for cutting. At this season of the year some of the London hospitals are not so well supplied by visitors with flowers as they are in the summer, and I know of nothing that gives so much pleasure as a few bunches of Chrysanthemums, which keep for a long time and do not need renewing so frequently as is the case with some other flowers.

MARTINMAS is a very free-flowering, small-sized Japanese, with short, flat florets; colour pale lilac-mauve.

MME. GAJAC, a Japanese with long florets of medium width, has a starry shaped flower, somewhat loose in build; also pale lilac-mauve in colour. In

M. LEVEQUE FILS, Japanese, with long, narrow velvety chestnut-crimson florets, the blooms are rather large and reverse gold.

MME. AUG. NONIN, a Japanese of medium size, very free, has flat florets. The colour is pale lilac-mauve, centre tipped yellow.

NELLIE BROWN.—A pretty little Japanese with broad, flat florets, golden bronze with golden reverse.

MYTCHETT WHITE.—A Japanese of medium size, with long narrow florets, twisted at the tips; colour white.

Mlle. MELANIE FABRE.—A Japanese; very full and double, florets narrow; colour pinkish mauve.

M. DUFOSSE.—Also a Japanese, with rather stiff flat florets, bronzy red, reverse golden.

CRIMSON PRIDE.—A large and most effective Japanese with rather broad, flat florets; colour deep velvety crimson, golden reverse.

TRIOMPHE DE LYON.—Another most effective Japanese sort; colour bright rosy mauve, with golden tips and centre.

GLADYS ROIT.—A pretty little Japanese, having tubular florets, very narrow and opening at the tips; white.

MME. DE SABATIER.—Japanese, with long, narrow pointed florets; colour bright velvety crimson, reverse gold.

MYTCHETT BEAUTY.—A very full and double Japanese, free, deep golden orange-yellow.

ROI DES PRECOQUES.—A pretty and effective Japanese with rather slender florets, deep bright reddish crimson.

Mlle. EULALIE MOREL.—Japanese; golden salmon.

IVY STARK.—A delicate little Japanese with narrow florets; colour golden bronze.

M. DUPUIS.—A Japanese with flat florets of a delicate shade of deep golden bronze.

AMBROISE THOMAS.—Japanese; a fine crimson.

P. H. C.

NATURALLY-GROWN CHRYSANTHEMUMS.

EVERYONE, I think, must admit the truth of "A. D.'s" statement that naturally-grown Chrysanthemums are less liable to disease than those produced by more artificial means and having large, flabby foliage, the result of much feeding with artificial manures. For many years I grew a number of plants for conservatory decoration and cut flowers, limiting them to pots 9 inches and 10 inches in diameter, the compost mainly consisting of a good sustaining loam, with a sprinkling of bone-meal added, giving the roots no additional assistance until they had well filled the pots, by which time growth was considerably advanced. Farmyard liquid the colour of pale ale was then given at every alternate watering, my aim being to secure a well-ripened growth and blooms not easily affected by damp. I always

found these plants resist mildew better than those fed up for the production of large blooms, the flowers also lasting much longer both on the plants and in a cut state. Moreover, with a view to retarding them as long as possible, I erected a framework over them, covering the roof at night with thick canvas on rollers, the sides being protected with garden mats. So treated they resisted a considerable amount of frost, which would have crippled, if not destroyed, plants having a gross sappy growth. When placed in Peach houses under a canopy of foliage early in October, the blooms often open with a rush and are of a short-lived character. Framework houses with portable glass roofs and strong canvas sides, as suggested by "A. D.," might well be used, not only for the temporary, but also permanent accommodation of Chrysanthemums. Where much cut flower is needed, young plants might be planted out at a fair distance apart and allowed to remain there for say three years. If the growths were thinned out somewhat in spring and the roots top-dressed and assisted with liquid manure, little or no disbudding being done, what a wealth of sprays for cutting might be secured. Years ago, when Chrysanthemums were grown entirely for decoration and cut blooms, gardeners potted on old plants year after year, one central stout stake and a few encircling bands of matting sufficing to keep the growth intact, and what basketfuls of, perhaps small but durable, blooms used to be cut. Plants with a couple of large blooms may look very well crowded together in a group, but from a decorative point of view they are useless individually.

NORWICH.

STAGING CHRYSANTHEMUM BLOOMS.

ANY method of staging Chrysanthemum blooms that is an improvement upon the stereotyped plan must be welcome. Too long we have been accustomed to these hard-and-fast lines of staging the lovely Japanese varieties, which lose so much of their natural grace and beauty when arranged so low and flat on the hard, green-painted stands. Visitors to the exhibition held in the Waverley Market, Edinburgh, for the first time must have felt a keen sense of delight at the charming exhibits of Japanese blooms so numerous and so tastefully arranged in vases accompanied by their own foliage. In many classes other foliage was admitted, which added to the interest and beauty of the exhibits, which were exceedingly numerous. On this occasion no less than 4000 cut blooms were staged—a really magnificent display. Fully three parts of them were arranged in vases or other receptacles, the remainder on the orthodox stand. It was interesting to note the preference of the huge crowd of spectators for the artistic arrangement of the blossoms in vases as compared with those in the orthodox stand. For the past few years the executive of the Scottish Horticultural Association have recognised the unsatisfactory method of staging cut blooms, and set themselves to remedy the evil. Handsome prizes are offered here to the value of £35 for the premier exhibit. Five other prizes in the leading class are also scheduled. Thus exhibitors receive much encouragement to put forth their best efforts. The conditions of the leading class are explicit yet easy, viz.: Twenty varieties, any section, three blooms of each to be staged in vases provided by the society, Chrysanthemum foliage only allowed. Experience proves that the blooms do not last so long in a fresh condition when the foliage growing on the stem bearing the blooms is retained as when stripped; the absorption by the foliage is too great for the freshness of petals. With a view to create a more effective and lasting display, exhibitors are allowed to strip the stems of their natural leaves and tie to them leaves from another plant carrying good foliage. In some instances this is not necessary, as the natural foliage will remain quite fresh the desired length of time. The plants must, however, be quite healthy and the blooms just the proper age for this particular show. Blooms that are not quite developed, or any that are a trifle beyond their date of ex-

pansion, will not carry their own foliage in a satisfactory manner. With a view, too, of placing all exhibitors on an equal basis, the vases provided by the society are of uniform size. Thus uniformity is preserved throughout the show. The blooms are arranged in triplets. Some exhibitors allow 15 inches of stem, others more. All endeavour to arrange their blossoms in such a manner that every one can be clearly seen. If a shorter length of stem than 15 inches is allowed, the blooms have a "squat" appearance; if more than 2 feet is provided, they have a gaunt look, which is increased if the blooms are small. The method of naming the blooms most generally adopted is that of adhesive labels fastened to each vase. A tight plug of Moss is employed to make the stems firm in the vases.

In this class there were six exhibitors, or a total of 360 blooms, providing a rich display. All the exhibits were confined to the Japanese section; exhibitors realise how unsuitable for effect are blooms, no matter how well grown, of the incurved or Chinese section. Varieties with long drooping florets, like Edith Tabor, Simplicity, or Mme. Carnot, and its yellow and primrose sports, lend themselves especially well to this form of arrangement much more so than they do to the orthodox cup, tube, and wood stand.

At the same show no less than eighteen more classes were provided for Chrysanthemums staged in vases, and as fully 1100 specimen blooms, irrespective of the leading class referred to and of classes for decorative and single-flowered varieties, were staged, readers can easily imagine the extent and grandeur of this show.

One of the most interesting classes in the whole show was that for three vases of decorative varieties not disbudded, any foliage to be used. As seventeen competitors took part in this class the effect produced can easily be imagined. The premier exhibit was as near perfection as possible, and well represented the type of Chrysanthemum best suited for room or vase decoration in combination with other foliage. The varieties included in the first prize collection were Source d'Or, Mrs. A. Kirke, a sport from La Triomphante, bronze and golden yellow, a pleasing combination, the remaining variety being yellow Lacroix. With the former were associated deeply bronzed leaves of Spirea Aruncus; with the yellow variety, leaves of Eulalia zebrina were happily associated. In this class many pleasing combinations were noted, as masses of the pale primrose Elsie, the bright crimson Roi des Precoces, the pure white Lady Selborne and the bronzy tinted Christine.

Single-flowered varieties were encouraged, not in classes for three blooms of each variety, as is so often seen, but huge masses lightly disposed in vases suitable for room decoration. Mary Anderson and its yellow-flowered sport, Annie Holden, were conspicuous in many exhibits, showing the favour in which this type of Chrysanthemum is held. Another method of showing large blooms of Japanese varieties that has much to recommend it is that so well done at Windsor, viz., a stipulated number (twelve) of blooms to be shown in a vase or basket associated with any kind of foliage. In this class the quality of the blooms is a point of importance; the prizes are awarded not merely for arrangement, but for effect combined with the quality of the blooms. Oval-shaped baskets filled with twelve handsome Japanese blooms of exhibition quality, pleasantly associated with their own leaves, foliage of Purple Beech, Scarlet Oak, Ampelopsis, Maiden-hair Fern, Crotons and graceful Palm leaves, with the handle neatly entwined with suitable material, are handsome ornaments in any front hall or drawing-room. Such exhibits are rendered useful in the way that they provide educational lessons for visitors.

E. MOLYNEUX.

The Chrysanthemum rust.—At the Aquarium conference on the new and troublesome disease it was stated by one of the lecturers that the crowded state of the plants and high feeding which obtain to produce large flowers have been the causes of its spread, and that it (the rust) is

never found among outside or border plants. To disprove this I would mention a case which recently came to my notice. A grower of early Chrysanthemums for market, whose land is situated over a mile from any place where Chrysanthemums are cultivated for big or show blooms, and who has not added a new variety to his collection for some four years, has his plants severely attacked by this leaf fungus.—GROWER.

GARDEN FLORA.

PLATE 1200.

BULBOUS IRISES.

(WITH A COLOURED PLATE OF I. JUNCEA AND I. J. NUMIDICA.*)

INCLUDED under this head we have some of the fairest of midwinter flowers, as also many of the most delightful of spring blossoms. In spite of their beauty and grace and the many pleasing and varied shades of colour, we do not find them grown so freely as they deserve. This is perhaps more true of the amateur than the professional gardener. Hence it is that certain sections of the flower and the so-called Spanish or Xiphium Iris more than all else find the greatest favour, and are therefore grown in immense quantities for cutting. And it is just this section of the genus that would appear best fitted for cultivation in British gardens, always, however, doing best where the soil is comparatively light, sandy, and, above all, well



Iris persica.

drained. Of some groups of hardy bulbous plants the season of flowering may be very considerably extended by delaying the season of planting. Such a system, however, cannot be adopted in the case of these bulbous Irises. It is true of them that they enjoy a resting period, but it is needful also to restrict such a rest to certain limits. Indeed, so far as the amateur is concerned, there is no safer method to be followed where lifting such things has become a necessity than to lift them and dry, clean, sort and replant again within a month or six weeks. During the period of rest the best possible position for the bulbs is any open place where a free current of air may be secured to them, and not, as is too often the case in small gardens or with many amateurs, to convey them to the potting shed or greenhouse and allow them to remain in boxes or

* Drawn for THE GARDEN in Messrs. Wallace's nursery at Colchester by H. G. Moon. Lithographed and printed by J. L. Goffart.



baskets in bulk as lifted. This is an error, the evil of which cannot too strongly be emphasised, and one that most frequently ends in failure another year. A capital way of giving all bulbs

The only way of at all extending the flowering season of both sections is to plant in various positions. This will give a useful variation in the time of flowering, and if the latter can only



English Iris.

the rest they need is to spread them out on boards or on a hard gravel path and place a spare light over them. A large pot at each corner will raise the light and throw off wet, and a sack or two will keep them shaded from hot sun. With respect to these, however, the drying and resting are most needed for the English and Spanish kinds, and only then in certain cases where soil or situation is calculated to injure if the plants were allowed to remain. In not a few gardens, too, these things become patchy and subject to disease. A species of dry rot attacks the corms to the very core, while retaining a comparatively sound exterior. This attacks them when, by accident or design, the plants are out of the soil longer than they should be. Not a few who have attempted the retarding process on the lines of keeping the bulbs too long in the dry state have proved this to their cost. It is also curious that the flowering of these plants is not deferred at all in proportion to the time between any two plantings. This is so when a

be extended by days rather than weeks, it is worth attempting where quantities of cut flowers must be had. It should be noted, however, that a fairly long season of flowering results naturally, the Spanish group flowering first, the English Iris forming a quick succession. The season for planting such things is already with us, and the early-planted ones have made abundant root since the late rains. All the same, it is by no means too late for planting this year, but it is important the work should be carried out at once, and equally important that good sound bulbs be secured. From 3 inches to 6 inches deep will be ample for all the kinds, the former depth being best for such as *I. reticulata*, and the latter for the taller forms of *Xiphium* and *xiphioides*.

The following species are worthy of careful cultivation, flowering as they do in winter and quite early in the year. *Iris Bakeriana* is one of the most beautiful of the whole race. The charming *I. Histrio* is very early, and has porcelain-blue flowers delightfully spotted; the allied *I. histrioides* has larger and more handsome flowers that are even earlier. The beautifully marked *I. persica* is perhaps the dwarfest of all. Of the several forms of the netted Iris, *I. reticulata*, the type is perhaps the finest garden plant. Other charming things are *I. Vartani* and *I. Vogeliana*. This may be described as an early *I. persica*, which it resembles in growth. It is a variable species, generally shades of silver-grey predominating, and having spots of rose and purple. All these are specially suited to pot culture or the rock garden, where on warm, sunny ledges above a thin carpet of greenery they would form a most delightful series quite early in the year. If grown in pots it should not be with any notion of so-called forcing, as nothing more certainly destroys the very charm that pervades every one, viz., their exquisitely delicate and varying shades of blue, sky-blue, and those pleasing silver-grey tones that almost everyone admires. In another little batch may be placed the more leafy kinds, of which *I. caucasica* and *I. orchoides* are representatives. The latter bears a profusion of rich golden-yellow flowers spotted with black, certainly one of the most satisfactory of this type, and at the same time the most vigorous in point of growth, the plants readily attaining a foot or 15 inches in height. The exquisite *I. sindjarensis* resembles *I. orchoides*, but has flowers of a pearly blue shade produced at intervals on the stem. No mention has been made of the midwinter kind, *I. alata*, also called *scorpioides*, but which, owing to its flowering in January, should be grown with protection.

Not the least of this important race are the two representatives of the Rush-leaved Iris, *I. juncea* and *I. j. numidica*, the former having flowers almost golden, while the latter is

characterised by flowers of a pleasing and delicate pale primrose, a shade so soft and beautiful, that it at once found many admirers when the plant was exhibited in June last by the Messrs. Wallace before the Royal Horticultural Society at the Drill Hall, when the variety secured the award of merit. Both kinds are faithfully depicted in the coloured plate in to-day's issue, and for early summer flowering are among the most valuable of the whole family. As an effective bed or group, *I. juncea* would be difficult to surpass, the rich tone of yellow displaying itself to advantage at a distance of 100 yards or more, the pale primrose form pleasing all by its delicate grace and beauty.

E. J.

THE WEEK'S WORK.

FRUIT HOUSES.

STRAWBERRIES IN POTS.—The first batch of these for extra early forcing should now be selected and placed in a light, airy house. For the first week or so it is not advisable to water much or at all, so long as the plants do not suffer. When somewhat dry at the roots it is advisable to go over them and press the soil down firmly, look to the drainage, weed if required, and wash the pots, but do not remove other than the dead leaves. These first early plants should, if possible, be stood upon shelves near the glass. A vinery or a Peach house just about to be started will suit them after this attention has been given.



Spanish Iris.



Iris reticulata.

period of several weeks separates the planting of the bulbs. The chief difference would appear to be represented by stature and a loss of growth and general vigour than ought else.

A properly-arranged Strawberry house is, of course, better as time progresses. My first lot of plants has to-day (December 3) been taken under glass. These will for a few days remain as above suggested, and then be stood upon shelves in the Strawberry house. The choice for this purpose has fallen upon *La Grosse Sucrée* again. These for the early batch are all in 4½-inch pots as an experiment, owing to the plants in 6-inch pots last spring not drying up so freely as I should have liked them to. Another lot will follow in ten days' time, but these will be in 6-inch pots. So far, owing to pressure of work, I

have not housed any of the stock, *i.e.*, placed them under glass in cold frames. So long as no serious frost sets in they will be safe and better, too, than if packed together closely in frames, even if the lights be off when not frosty. If the present open state of the weather continues for a few days longer my stock of St. Joseph, which yielded fruit up to November 12 under glass, will be planted out on a west border which is in readiness for them, the object being to prepare them for, first, yielding early runners to pot up in July, and next to bear an autumnal crop, the early trusses being picked off when they first appear.

PEACHES AND NECTARINES.—For the first early forcing of these fruits I depend entirely upon pot trees, finding it to be more convenient and economical. The first selection of these was made on December 2, the trees having since the end of October stood in a cool, well-ventilated house. Nectarines are given the preference thus early over Peaches, being found more reliable on the whole. Cardinal is the one variety selected, with a few trees of Amsden June, Stirling Castle, and Early Grosse Mignonne Peaches. The second variety, although not a first early Peach, flowers at the same time as the first earlies, being very prolific in pollen; hence its choice. In addition also I have found that it is not a bud-dropper. These trees do not fill up the early house, a light span-roof structure, but it will be filled later on with Waterloo, Alexander, and Hale's Early. These varieties are at present out of doors, where they will remain until it is seen that the flower-buds are just showing colour. Then they will go inside at once, this precaution being taken to guard as far as possible against their proclivity for bud-dropping.

FIRST EARLY PLANTED-OUT TREES.—The middle of December is, on the whole, quite soon enough to start these. If started at the beginning of the month a week may be gained, it is true, but unless the trees be thoroughly established and reliable by previous tests, the gain is not commensurate with the risk. I have a "one-tree" house that is annually started at the same time as the first lot of pot trees, but it is the outcome of years, the tree now being, as it were, acclimatised to the procedure and reliable. For the first three weeks no fire-heat will be given unless there is a risk of the inside temperature falling below 37°. The trees will be syringed once or twice daily, and the houses kept fairly close with no fire-heat. This applies to both pot and planted-out trees, no variation in treatment being recognised.

LATER HOUSES.—Proceed with the routine work of the season and endeavour to be well advanced with it all by the end of this month. With respect to the pruning, which should be the first operation, previous experience with the same trees will indicate the course to pursue. In some soils, as in varieties, it is safe to train the shoots thinly. In others it is not a good course to pursue, for others no doubt, as well as myself, have noted the tendency to set the crops upon the medium and small wood. If this be so, it is plain that this wood must be retained, especially short spur-like shoots, for which I have a personal liking, regarding them safe for one fruit each. On the other hand, it does not do to cut away the strong, well-placed shoots, but the vigour of such, another season, must be reduced by not dis-budding too early or too freely. What will suit in one case will not in another, as I have noted in many instances. One case in particular occurs at the moment in which the trees were the perfection of shape, with every branch, so to speak, in its place, but the crop was a failure. True, if the few extra fine fruits were staged in competition they would be almost sure to win, and credit would redound as a matter of course. This, however, is not satisfactory cultivation. A full crop should be the aim, and nothing short of it on the average. These trees in due time, by their vigour, brought about by early dis-budding and light crops, became a prey to canker and are now trees of the past. There is not a gardener, perhaps,

who has not noted that a Peach tree when it shows signs of old age bears its finest fruits. What is this caused by but by a check in the flow of the sap, through, perhaps, a contraction at the contact of stock and scion or by remote symptoms of decay? If the trees be now at all over-luxuriant, guard against still further exciting them by manure of any kind until a good set of fruit has been secured, then possibly a phosphatic manure will assist them. When it is decided to close a house for forcing, call into use at once the XL All vaporiser as a safeguard against greenfly, and again before the earliest flowers open. In neither case is a strong dose needed when thus taken in time. Do not omit the all-important matter of watering the borders if inside ones; a dry border may cause bud-dropping in any case. Avoid, if possible, the introduction of an excessive number of plants into the house, this of itself often being the cause of an attack of greenfly. Too many plants of a tender character in these houses often mean that they are kept too close for the real occupants of the house.

CHERRY HOUSES.—The culture of Cherries of the best dessert kinds ought to receive more attention than it does under glass. In order to be on the most certain road to success, it is advisable not to grow the Cherry in a mixed house unless it be an absolutely cool one, in which case there will probably be ventilation sufficient to meet the case. I never close the Cherry house, even with a few degrees of frost outside, until the fruit is set and nearly or quite safe over the stoning period, yet it is ripe by the third week of April. Guard, therefore, if commencing the culture of Cherries under glass, against exciting the trees too much. Do not close the house absolutely, but with a free circulation have a little warmth in the pipes. If dealing with trees planted out, keep such now entirely cool, as the least amount of warmth will start them. Let them have a thorough cleansing if need be. If any great amount of pruning has to be done to trees growing in borders, dress the wounds with styptic in the possible event of gumming. If in past years the fruit has dropped during stoning, it may be taken that phosphates are deficient, and manure accordingly as quickly now as possible.

HORTUS.

KITCHEN GARDEN.

NECESSARY WORK.—With a change in the weather much of the work hinted at in previous calendars will now have to be done. The first to claim attention will be the protection of vegetables. The Bean crop, both runner and dwarf kinds, should not be left any longer. Stakes needed for future use should be stored. Now is a good time to get in the supply of stakes for another season, as these may be prepared before other work of more importance needs attention. The leaves on fruit trees have been longer than usual in falling. This will not be advantageous, as till these are cleared the quarters cannot be dug or cleaned up for future vegetable crops. I am busy draining the walks where necessary, and after this is done, it will repay to add a light covering of new gravel to give the walks a bright appearance. Every opportunity should be taken in frosty weather to cart manures and soil on to the surface. Many old garden soils would be much improved if old potting soil, Cucumber, Vine, Melon beds or other material could be added. These are more valuable than heavy coatings of animal manure yearly. Broccoli plants, as soon as the heads are cut, should be cleared and the land prepared for future crops. The Autumn Protecting variety is later than usual this year owing to late planting, so that I fear the heads will be small. The plants should be gone over two or three times a week, and plants with heads fit for use should be lifted and placed under cover. The late varieties of Broccoli will now have made their growth, and protecting, as previously advised, by heeling over should not be delayed. Mint and Tarragon should be lifted for forcing. These grow freely

in an early fruit house placed near the glass. Seakale will now force more readily, and if roots are lifted, trimmed, and laid in the soil they will be ready for use in severe weather, as it is an easy matter to cover with long litter. I place the roots in warmth every fortnight from this date, and as it may be wanted in larger quantities at the Christmas season, this should be borne in mind. I find the roots do not force so readily this year, owing to their late growth. Asparagus will need more time than Seakale, unless there is genial warmth under the roots. If on manure or leaves, growth will be general in three weeks with a top temperature of 60°. To maintain a regular supply I put in enough roots every three weeks up to the end of January, after that date relying on the forced beds in the open. Time will be saved by lifting the bulk of Jerusalem Artichokes and pitting ready for use, sorting out those required for seed. The land may then be prepared for future crops, and wherever change of quarters can be given the return will be better. Globe Artichokes should be protected in gardens where loss of plants occurs. Turnips for use in mid-winter should be lifted and treated as advised for Potatoes; the quality will be better if in a clamp, and in storing, the large roots should be used, as these keep badly under any conditions. Small bulbs are best left in the ground, and these will benefit by having soil drawn up to the leaves; the yellow-fleshed varieties will not need this protection. The hoe should be kept going between young crops, such as spring Cabbage and other small roots, whenever the soil is dry.

CARROTS.—These up to this date are in their growing quarters, and though it is usually advised to lift them in light, well-drained soils, there is no need to do so. The land must be free of wireworm, as this pest makes sad havoc of the roots. The flavour of Carrots left in their growing quarters is superior to that of roots lifted and stored. The roots are not injured by frost, and they may be kept much longer in the spring if lifted just as they commence to make new growth and placed in moist soil under a north wall. The late summer-sown Carrots for spring use are now growing freely, and if these small Carrots go through a hard winter, the larger ones will certainly do so. The last sowing will be benefited by a dressing of soot. Late-sown Carrots are a great boon to growers who need this vegetable in quantity in the early spring, as, no matter how well frame Carrots are grown, they are none too early or too plentiful. These will be little inferior in quality and may be had in quantity. Carrots in peaty or light soils grow freely in mild winters if well treated.

LEEKS.—The earliest Leeks will now be valuable as a winter vegetable, and the quality will be improved after the heavy rainfall. The most useful Leeks are the medium-sized ones, not too long, so that the blanched portion may be served on toast and the green part will be useful for flavouring. Later lots will now benefit by having a little earth added to the rows, but in doing this the weather should be studied, and if too wet or frosty delay will do no harm, as the green portion of the plant is very hardy. Plants for latest supplies, owing to the summer heat and late drought, are smaller than usual, but growth is still active. I have given liquid manure freely, and dressings of soot will benefit the plants if applied in rainy weather. Now is a good time to sow in boxes when large roots are needed for early autumn or for exhibition. I prefer to sow in a cold frame. The frame may be removed in the early spring, and the plants will be strong for April or May planting.

ONIONS.—The autumn crop should now be in their winter store. It frequently happens that the crop is placed in bulk till an opportunity offers to sort the bulbs and rope or tie in bunches. Either of the latter should now be done, as if left too long few vegetables suffer sooner, the outer skin decays and the bulbs go soft, growing out and being of no use for keeping. I find Onions keep well suspended from the roof with a free circulation of air. Those who grow large Onions

will need to sow under glass as soon as possible; indeed, many sow in November or earlier, but good specimens may be obtained by early December sowings. The best system when only a small quantity is needed is to sow in boxes, as these are more readily moved about as growth increases. The autumn or August-sown seedlings this year are none too plentiful. I made two sowings, but owing to the drought much of the seed failed to germinate, so that it may be advisable to sow under glass to get a full crop. The hoe should be used freely between the rows of plants in favourable weather, and dressings of soot or wood ashes will be beneficial.

ENDIVE.—The autumn rains have made the Endives grow freely, and with the growth so tender it will be well to protect earlier plants that are blanched, as these suffer sooner than the greener leaves. I am housing in frames the larger plants, lifting with a ball of earth and removing any decayed or useless leaves. I find the plants from this date will blanch much better in a dark place, such as a Mushroom house, than covered in the frames, as in these they damp badly. In very severe weather the plants for spring supply will well repay for a little protection in the way of dry Bracken or long litter. There is no difficulty in having a good supply during the next two months, as these plants will have finished their growth. Some of the medium-sized plants should be lifted for a succession, and if placed in a cool fruit case or unheated house they will continue growing if not crowded and given a free circulation of air. The Large-leaved Batavian is the best keeper.

LETTUCE AND OTHER SALADS.—Lettuce will have been more plentiful than usual owing to the mild autumn, but from this date it will be well to lift and house any plants large enough for present use. The Cos varieties, such as the Brown and Black-seeded, will winter in the open on warm borders if the plants are not too large, and any above half-grown it will be well to protect. Much the same remarks apply to Lettuce when given glass protection as advised for Endive. Chicory will be a welcome addition to the salads. If a few roots are placed in a dark, warm place every fortnight, the new growths will be ready in ten days. Dandelion and sprigs of Tarragon should be forced like Chicory, but the Tarragon will need more light. This does well in a frame. Those who have a deficiency of Lettuce should sow seed thinly in boxes in a warm place, and when the seedlings are 3 inches high or so cut them over like Mustard and Cress. Mustard and Cress should now be sown fortnightly. S. M.

Stimulating manures.—There is a great tendency now-a-days to employ in plant culture highly concentrated manures of different kinds, which are so exciting that their effect upon the plant is seen very shortly after the application. The use of such manures is perhaps justified where the sole object is to bring the plant to the highest possible pitch, but woe-betide the cultivator who attempts to grow it on after being fed up with one of the many highly stimulating manures, as, though the shoots may be thick and sappy and the foliage richly coloured, the constitution of the plant is so weakened that in most cases it will merely exist. Again, plants that have been fed up in this manner are quite useless to propagate from, as cuttings even of subjects with which there is no trouble when in a normal state will refuse to root when taken from these plants. The Chrysanthemums that are grown for the production of huge blooms supply a case in point, and so do the Pelargoniums brought into Covent Garden Market during the season. In the neighbourhood of London, too, these fed-up plants fall a far more ready prey to that bane of cultivators—fogs—than those grown under normal conditions. Where the permanent health of the plants has to be considered, stimulants, if needed, should consist of manure-water made from the manure of cows or sheep and well diluted.—H. P.

AN AUGUST VISIT TO TRESCO ABBEY GARDENS.

DURING a short summer cruise along the south-western coast I was afforded a welcome opportunity of renewing my acquaintance with the Isles of Scilly. Passing the bold rock mass of Peninnis Head in the gloaming, the yacht anchored in St. Mary's roads as night was closing in, and had scarcely tautened her cable ere torrential rain commenced to fall, which continued at intervals throughout the night. The following morning broke cloudlessly fine, and in the early hours a shift of anchorage was made, under local pilotage, to the picturesque New Grimsby harbour, where on the one side the high land of Tresco slopes down to a sandy beach, and on the other, Bryher rises abruptly from the shore. On the seaward side the rugged Hangman's Rock juts out into the channel, which, near the entrance, is flanked by the sturdy ruin known as Cromwell's Tower rising from the water's margin, while across the flats and the lately-quitted roadstead lies St. Mary's, with the roofs of Hugh Town gleaming in the sun.

It was a little late to see the abbey gardens at the zenith of their summer glory, for the long spell of dry weather had unduly curtailed the flowering season of the *Kalosanthes* (*Crassula*) and of the earlier-blooming *Mesembryanthemums*, which three weeks before must have presented a vision of unparalleled brilliancy. Here and there, however, a dozen or so bright flower-heads of the *Kalosanthes*, which grow in huge masses among the rocks, gave evidence of the quality of their July display, while many of the *Mesembryanthemums* were still marvels of gorgeous colouring. Especially was this the case in a newly-excavated rock garden, where, associated with scented-leaved *Pelargoniums*, flesh-coloured, pink, rose, and crimson, *Lemoine's Gladioli*, and *Montbretias*, their vivid tints glowed in the morning sunshine. The Tresco Abbey gardens contain the largest open-air collection of *Mesembryanthemums* in the British Isles, 120 varieties being under cultivation, many being of exceptional value on account of their brightly hued flowers, while others are interesting by reason of their distinct foliage, *M. tigrinum* being especially curious in the latter respect, the spiny, concave leaves, half unclosed, bearing sufficient resemblance to the tiger's open fanged mouth to account for its name. Among the ruins of the old abbey the African Lilies (*Agapanthus umbellatus*), blue, lavender and white, made a delightful picture, while a long wall, 6 feet high, was salmon-pink with the blossoms of the Ivy-leaved *Pelargonium Mme. Crousse*. *Crinum Moorei* was in bloom, and the lovely *Sparaxis pulcherrima* was bearing its graceful arching flower-wands, 5 feet and more in height, the rose-pink drooping bells, poised from delicate thread-like footstalks, the deep blue *Commelina celestis* blossoming profusely hard by. The heavy rain of the preceding night—the rain gauge measuring a fall of close upon 1 inch—had refreshed the foliage and moistened the ground, little pools in places evidencing the volume of the downpour. The abbey itself is built upon the solid rock, which slopes downwards from its foundations to a lower level and affords ample scope for rock gardening on a large scale. A dip in the rock has lately been fashioned into a series of pools, one above the other, in which Water Lilies are now growing, many handsome varieties being represented, among which may be mentioned *Nymphaea flava*, *N. Marliacea sulphurea* and *N. M. s. grandiflora*, *N. M. Chromatella*, *N. M. cernea* and *N. Laydekeri rosea*, while the lowest rock pool is set aside for the sole benefit of the Cape Pondweed (*Aponogeton distachyon*). The Maiden's Wreath (*Francoa ramosa*) grows freely in the open at Tresco, and *Fuchsia fulgens* may also be seen in flower. *Muschia Wollastoni* had produced a spike between 3 feet and 4 feet in length of greenish yellow flowers, unique, if not particularly effective in appearance. *Hedychium Gardnerianum* was in bloom, as were Lilies of the auratum, speciosum and tigrinum sections, as well as *Cannas* and *Tritonias*, while *Portu-*

lacas showed their bright hues of scarlet, rose, orange and pink. *Kniphofias* bore their vivid spears of bloom and, by a little watercourse, the *Arums* were growing in a thicket, while *Hydrangea* bushes were blossoming on all sides. What must be a striking sight at another season of the year was a large bed of Guernsey Lilies of different varieties, which are said to thrive wonderfully under their treatment, one item of which is surfacing the bed with sea sand every year. Against a wall *Mandevilla suaveolens* was bearing its large white scented blossoms in profusion, while the yellow *Abutilon* and *Swainsonia alba* were also in flower. Against the same wall were growing a large double *Pomegranate*, *Tecoma radicans* and *Leonotis Leonurus* 7 feet high, which had flowered well through the summer. One of the borders in this garden is edged with a wide margin of *Lithospermum prostratum*, which in the spring is a mass of deep blue. Close by a large clump of *Iris stylosa alba* is growing, and in another portion of the garden *Iris Robinsoniana*, with leaves 6 feet and 7 feet in length, is seemingly in vigorous health and is said to flower well. Of

FLOWERING SHRUBS AND TREES

the following were in bloom: *Anopteris glandulosa*, with its panicles of flesh-white flowers, *Banksia grandis*, *B. littoralis* and *B. serratifolia*, the Allspice Tree (*Calycanthus grandiflorus*), the golden-flowered *Cassia corymbosa*, *Clethra arborea*, 12 feet and more in height, thickly studded with its sprays of white-flowered racemes; *Desfontainea spinosa*, with its scarlet tubed flowers; *Eriostemon buxifolius*, *Escallonia organensis*, *Heliocarpus cyaneus*, *Melaleuca hypericifolia*, with its cylindrical scarlet flower-spikes; *Olea fragrans* and *Polygala*; while amongst those out of bloom were *Abutilon vitifolium*, both the lavender and white forms; *Acacias* in variety, of which *A. dealbata* looked particularly healthy; *Boronias*, *Brachyglottis repanda*, *Cantua dependens*, *Callistemon speciosus*, *Correas* in variety, very vigorous in appearance; *Dodonia excelsa*, which was bearing its winged seed-vessels; the Camphor Tree (*Dryobalanops aromatica*), *Echium calythisum*, 8 feet through; *Edwardsia microphylla*, *Embothrium coccineum*, *Eurya latifolia*, which flowered this year; *Griselinia lucida*, *Illicium religiosum*, bearing curious seed-vessels in place of its beautiful white flowers; *Libonia floribunda*, several trees of *Metrosideros robusta*, which in July had been masses of crimson bloom-clusters, and *M. floribunda*. In the former variety there were many cases in which aerial roots had been formed on the branches. *Myrtles* were in superb health, and an Orange Tree was growing in the open, while there was a fine specimen of *Myoporum laetum*, whose lance-shaped leaves were covered with numerous pale-coloured spots, which proved transparent when held to the light. *Pimelea decussata*, *Psoralea pinnata*, and a fine specimen of the double *Sparmannia africana* were also growing in the gardens, where the Himalayan *Rhododendrons* were evidently in the best of health and are gradually ousting the less decorative *R. ponticum*. Amongst other trees were a very vigorous specimen of *Araucaria Bidwelli*, a specimen of the Norfolk Island Pine (*A. excelsa*) 20 feet in height, and close to the abbey a large tree of *Casuarina quadrivalvis*.

Several varieties of Bamboos are grown, amongst which are *Arundinaria Simoni*, *A. falcata*, *Phyllostachys aurea*, *P. viridi-glaucescens*, *Thamnocalamus Falconeri*, and others. Of Palms there is a fine specimen of *Chamaerops Fortunei* 15 feet in height, while *C. excelsa*, by some thought synonymous with the former, but here exhibiting certain divergence, is of equal stature, other Palms grown comprising *C. humilis*, *Seaforthia elegans*, *Corypha australis*, and *Phoenix canariensis*. An exceedingly fine specimen of *Seaforthia elegans* was, unfortunately, lost during the winter of 1893-94.

Puya chilensis was bearing a tall autumnal flower-spike, after having perfected one 15 feet

in height during the preceding spring, when *Doryanthes excelsa* produced a flower-spike over 10 feet high. *Fourcroya longeva* grows rampantly in the gardens and often throws up lofty flower-spikes, one of these having attained a stature of 25 feet. *Beschornierias* also flower freely, while *Dasyllirion acrotrichum* and *Rhodostachys littoralis* grow on the sunny rocks. Many species of the Aloe are grown. *A. ferox* had already bloomed, and *A. spicata* was throwing up its flower-stems. Between forty and fifty varieties of Agaves are cultivated, the pockets and crevices of the sloping rock evidently suiting their needs to perfection. Fine specimens of *A. americana*, long ranks of which are often to be seen in flower, are common, while other varieties grown embrace *A. applanata*, *A. coccinea*, *A. concinna*, *A. Celsiana*, *A. ferox*, *A. rubro-spinosa*, and *A. Verschaffeltii*. The New Zealand Flax grows like a weed on the island, and clumps of various kinds are to be found in the gardens, among these being the type, *Phormium tenax*, *P. t. variegatum*, *P. atropurpureum*, *P. Colensoi*, and *P. Guilfoylei*. The large specimens of *Dracæna australis*, which form the far-famed *Dracæna* avenue, a charming illustration of which appeared on p. 197, vol. xlviii. of THE GARDEN, are in some cases, unfortunately, showing signs of decreasing vigour. After reaching a certain size the tap-root appears to encounter some substance inimical to the health of the tree, which gradually loses strength and commences to die back from its extremities. The hybrid *Dracænas*, of which large numbers are raised from seed, do not, I was informed, push down a tap-root, but throw out their roots laterally, and should not, therefore, be subject to the loss of vitality apparent in the older specimens of *D. australis*. *Dracæna Draco* (the Dragon Tree) is also grown at Tresco, and I renewed my acquaintance with the fine *Cordyline indivisa*, which I first saw in the spring of 1895, and which was subsequently figured on p. 86, vol. xlix. of this paper. It was at that time bearing a huge bloom-spike, but during the past two years has not been allowed to flower, as the plant was apparently weakened by the strain of flower and seed-bearing. The broad sword leaves, fully 4 inches in width, are very different from those of *Dracæna indivisa* with which it has been confounded. *Gunnera scabra* and *G. manicata* are both grown, the former, although planted in a damper situation, being far surpassed by the latter in size of leaves. Many plants possessing scented foliage are cultivated, the list comprising amongst many others *Laurus aromatica*, *L. camphora*, and *Geranium tomentosum*.

Rare and remarkable as are many of the occupants of the Tresco Abbey gardens, it is, perhaps, in the sheltered grove, where the great

TREE FERNS

spread their giant fronds, that the breath of other climes most powerfully pervades the consciousness; climes with which the rheas, stalking sedately over the close sward hard by, and the strange waterfowl, that break into ripples the placid surface of the pond, seem more in keeping than with the atmosphere of northern skies. In this sanctuary the mid-August sunbeams flicker fitfully amongst the foliage, where the hammocks swing beneath the trees, filtering through the delicate tracery of the Fern fronds, here and there touching their brown trunks with shifting lights and dappling the broad leaves of the *Musa* with spots of lighter green. Here the Tree Ferns, most of which have been raised from seed, are evidently at home. A fine *Cyathea medullaris*, put out from a pot four years ago, has now fronds 7 feet in length, while *Cyathea dealbata* is also well represented. *Dicksonia antarctica* and *D. squarrosa* have both attained a height of about 15 feet and carry fine heads of wide-spreading fronds, one large specimen of *D. antarctica* with a triple stem having been planted in the late Mr. Augustus Smith's time. In the equable climate of the Isles of Scilly it is unusual for any permanent injury to be done to the Tree Ferns during the winter, but a large *Cyathea* was un-

fortunately killed by a sharp frost succeeding a period of mild weather in 1894. Other Ferns are well grown within the boundaries of the Tree Fern grove, *Lomaria procera* being remarkable for its vigour.

Among the Tree Ferns an air of peace reigns supreme, but, should one wander but a few yards further, a vision in which peace has no part is conjured up, for here is Valhalla, where, in an open verandah, rest the tempest-riven figure-heads of many a fine ship wrecked in the fierce winter gales on the outlying reefs that like a network encompass the Western Isles.

S. W. F.

FERNS.

OUR BRITISH FERNS.

At the present time these are not so popular as they deserve to be, yet, glancing through the long lists of varieties enumerated, and from the

sirable Fern, and the numerous beautiful varieties are certainly not excelled by the choicest of our exotic Ferns. I think that one reason for these beautiful hardy Ferns not being grown so extensively as they deserve is that those who have planted them have not paid sufficient attention to the conditions they are found under when growing naturally. In my rambles in the country I have seen the most beautiful specimens, but always growing in sheltered nooks and where the crowns get covered with fallen leaves in autumn. Some of the finest specimens I have seen have been growing in deep hollows sheltered on either side by hedges, and it is only when so protected that they are seen at their best. When growing them in pots, it should be remembered that they are more liable to damage from frost than when in the ground, and also that they do not get the natural protection afforded by leaves, which, as they decay, form a good surface dressing for



Polystichum angulare Kitson.

number of first-class certificates that have been awarded for varieties, it is evident that in the past they must have been even more popular than the exotics are at the present time.

Of *Aspidium* (*Polystichum*) *angulare*, I find there are nearly 150 varieties enumerated in the list of Ferns cultivated at the Royal Gardens, Kew, and this list does not include many of those which have received first-class certificates from the Royal Horticultural Society. (There are upwards of forty which have gained this distinction.) The ordinary type is a most de-

the new roots in the spring. When grown in pots all the *Polystichums* should be potted in good fibrous loam and leaf-mould, and although considered quite hardy, the protection afforded by covering them with some straw or Bracken will be beneficial, and they may be started into growth early in the year by placing them in a little warmth. In early spring a little artificial heat will assist in the development of the new fronds, but during the autumn this will only induce premature growth and will weaken the crowns.

All the hardy Ferns require a period of rest, and if this is not given at the proper time they will be weakened, and instead of the fronds increasing in size they will get smaller. During the resting period they should not be allowed to become too dry, the chief thing being to keep them in a cool, shady position and avoid all stimulating manures. Of the varieties, the one here illustrated (*Aspidium angulare* var. *Kitsonae*) is one of the most desirable, making a bold plant with broad, sturdy fronds. Of the choicer sorts, those of the *plumosum* type are the finest. There are also several fine forms of the *proliferum* type. Wollaston's variety, which I believe was found growing wild, is a fine form. In a recent note I referred to the propagation of these from the bulbils, but when left undisturbed in a genial position young fronds will be produced from the bulbils, forming a dense mossy growth along the main stem. There are also many beautifully crested varieties of *A. angulare*, and these may be raised from spores. By carefully selecting the best-developed fronds for spores further improvements may be made. Raising seedlings and watching their development are most interesting, and some good things will generally occur in a batch of seedlings.

A. HEMSLEY.

POLYPODIUMS.

THIS is the most extensive genus we have in Ferns, and includes widely distinct species. One can hardly conceive why such widely distinct Ferns should be included in one family. Taking those with the spreading rhizomes which belong to the section with fronds which, when matured, drop off and leave only a scar on the rhizome, of which *P. vulgare* (our native Polypod) is a good example, and then take the *Phegopteris*s, which have their fronds continuous with the stem or rhizome and do not fall off. In Nicholson's "Dictionary of Gardening" it is stated that there are upwards of 450 species, and add to this the number of garden varieties, the list would be a very long one. It is rather remarkable that in such an extensive genus there are so few found useful for general culture. Those of the *Phlebodium* section are the most conspicuous. *P. aureum*, which is so largely grown for market, is a beautiful Fern, making a well furnished plant in a 5-inch pot or a grand specimen for an 8-inch or 10-inch pot, and may be raised by thousands from spores which, if collected at the right stage, rarely fail to germinate. The variety *glaucum*, which is of more slender growth and has a more distinct bluish tint to the fronds, though not so extensively grown, is a very desirable Fern. To this another very distinct variety has lately been added. I refer to *P. Mayi*, which has the beautiful glaucous tint, the pinnae deeply corrugated and fringed on the margin. Should this come true from spores, it will prove a most valuable addition to our market Ferns. *P. sporocarpum* is another variety of this section, similar in texture to *glaucum*, but the fronds stand quite erect instead of drooping, and the rhizomes are not so thickly covered with scales. *P. nigrescens* is a distinct and useful species with irregularly divided fronds. A curious characteristic of this species is that the spore cases are sunk, and the upper surface of the fronds shows a regular row of knots or protuberances on either side of the midrib. A curiously crested form of this was lately exhibited and received an award of merit from the Royal Horticultural Society. It was said to be of hybrid origin between the above and *P. vulgare grandiceps*, but I should say if a hybrid at all, it has more affinity to *P. phymatodes cristatum* than *P. vulgare*.

Of those with long pinnate fronds, *P. subauriculatum* is the most effective. Grown in the stove under favourable conditions it will make very long fronds, and it is only when suspended that it can be grown to perfection. It is perhaps

better known as *Goniophlebium*. Another of this section is *appendiculatum*; the fronds are not so long and more resemble those of our native *P. vulgare*, but have a deep bronzy, almost crimson tint. It requires some care to succeed well with this; the roots do not go deep, and if grown in shallow pans, in a rough compost consisting of peat, fibrous loam, sand and broken crocks, with good drainage, it will succeed better than when given more depth of soil. This applies to most of those with slender, spreading rhizomes. *P. pectinatum* and *P. plumosum* may both be raised from spores and make better plants than from division. In *P. diversifolium* the fertile fronds are pinnate with long, narrow pinnae. It also forms some short, broad shell-like fronds. *P. rigidulum* has the same characteristics, with longer fronds; this is a grand Fern for wall pockets. In *P. quercifolium* the barren fronds closely resemble an Oak leaf, but the fertile fronds grow nearly erect, and are of a stiff, rigid texture, closely resembling *P. Heracleum*, which has broad, pinnatifid, sessile fronds of a thick, rigid texture. It is curious how closely this resembles *Acrostichum drynarioides* except in the fertile fronds. In the latter the terminal segments or pinnae are very narrow and the sori continuous, while in *P. Heracleum* the sori are dotted over the under surface of the broad pinnae. *P. Meyenianum*, of which a good cut occurs in Schneider's "Book of Choice Ferns," is known as the Bear's-paw Fern, owing to the thick scaly rhizome closely resembling a bear's foot. In this the sori are produced on the terminal pinnae, which are much contracted. It is one of the most beautiful of the genus when well grown. This should be grown in baskets or shallow pots, and when in pots the crown should be kept well above, so that the rhizomes can spread over the rim of the pan or pot.

Another distinct section of the *Polypodium*s is that with simple or undivided fronds. *P. irioides*, *P. muscifolium*, *P. phyllitides*, and *P. crassifolium* are good examples; these, though not generally cultivated, make fine decorative plants, especially when raised from spores. They require a stove temperature and delight in a shady position, though the fronds are of a thick leathery substance. I find they do not stand exposure so well as many of less substance. *P. crassifolium* and *P. phyllitides* are, perhaps, the most serviceable, and, being totally distinct from other Ferns ordinarily grown for decoration, they should prove very useful. I believe many of this genus would be more appreciated if they received more liberal treatment. A good rough compost, plenty of drainage, and sufficient surface room for the rhizomes to spread, with a genial atmosphere, will suit them well. There are many others worthy of reference which I hope to include in future notes.

A.

STOVE AND GREENHOUSE.

RESTING ARUM LILIES.

AT Heath Grange, Weybridge, the residence of Mr. W. A. Bilney, Arums are grown on the resting system, the results being in every way more satisfactory than when the plants are set out in the open ground for the summer months. Mr. Whitlock, the gardener, tells me that he could not get a good supply of flowers in late autumn and early winter until he gave the plants a thorough rest after blooming. They are placed in the open air at the foot of a wall, getting only enough water to keep the roots and crowns from shrivelling until September, when they are shaken out and repotted. Towards the end of October they commence to bloom, and continue to do so through the winter and spring months, some of the flowers measuring 10 inches across. The pots being well filled with roots early in the season, liberal feeding is practised, with the result that a

larger number of flowers of good quality is obtained than by any other method. I was told that plants which commenced to bloom early in November continued to do so freely until quite late in spring, and, what is more important, the plants every year exhibit a tendency to bloom at an earlier date than they have hitherto done. By planting out it has been found that only a limited number of flowers can be obtained at the time of year when they are most valuable; whereas when established and given liberal feeding, a succession may be obtained for some months.

J. C. E.

Begonia Knowsleyana.—Among the many good things the genus contains this free-flowering kind is surely worthy greater consideration than it appears to receive. Its bushy form and great freedom as well as profuse flowering, to say nothing of the delicately toned flowers, should tend to its general use as a pot plant. As an autumn bloomer, too, it is of much value, and by a little attention the flowering may be extended a long way into the later months of the year. Given a course of similar treatment, it should prove a welcome companion to the charming *Gloire de Lorraine*, and it may be useful also to cross with the latter in the hope of raising others as good and free and of other shades.

Saintpaulia ionantha.—This interesting little plant is deserving of all that is said of it in the paragraph on page 439. It is particularly suited for small pots, and looks prettier than when grown in larger sizes. It can be propagated from leaf cuttings, that is, leaves with one or two transverse cuts across the fleshy midrib, and then pegged on the surface of a seed-pan or pot filled with fine sandy soil. In course of time a callus forms where the cut is made, and from this, little plants spring up. A moist shelf in a warm greenhouse seems an ideal place for this small, but profuse bloomer. It is seen in such a position to better advantage than if arranged among other plants.—S.

Dracæna Sanderiana.—I think this should make a useful plant for florists. One great point is that it retains its clear white variegation well, is easily propagated, and although it requires a stove temperature, it stands fairly well. When grown singly it is too slender as a pot plant, except when used in quite small pots. In a 5-inch pot three plants should be grown together. In propagating they should be put in singly into small pots and potted together after they are well rooted, selecting plants of as near the same height as possible. The same stock plants will give a good succession of cuttings if treated carefully. If allowed to make a good growth before taking the cuttings they will keep in health and give a succession, but when cut too close they are liable to lose their roots, and do not then start away so freely. A good loamy compost with plenty of drainage is necessary. In a moderate stove temperature it will make free growth and soon attain to a useful size.—A.

Salvia Hoveyi and others.—Recently I saw *Salvia Hoveyi* in fine condition in the conservatory at Frimley Park, the dark purple flowers harmonising well with red *Salvias* and white *Chrysanthemums*. The *Salvias* have much to recommend them for the decoration of the conservatory. *Salvia splendens* and its variety *grandiflora* are most useful in the autumn where bright flowers are in demand. *S. Bethelli*, again, is a good kind, although I have found this does not lend itself to late stopping, as does the old *splendens*. *S. Pitcheri* should be grown where a light blue is wanted. This kind is best from old roots, as it is semi-tuberous-rooted, and will stand in the open if planted in a warm, dry spot. If small plants are wanted for placing in vases for house furnishing, the best way is to strike four or five cuttings in a 4-inch pot at the end of June. When rooted, pot them on together and do not stop them. By so doing you get plants about a foot high. Another recommendation of these *Salvias*

is that they cost little to grow and continue in bloom a long time. They may be planted out and lifted in autumn.—J. CROOK.

FREESIAS FAILING.

I WILL thank you if you will let me know the cause of the enclosed *Freesias* going wrong, and whether you can suggest a remedy. The bulbs were planted in July in apparently good condition, and showed no signs of disease until about a month ago. Those sent were planted in boxes in the usual compost of two parts old loam, one part sand, and one part decomposed manure, with a sprinkling of old lime mortar. There is another lot in a well-drained border against a south wall in the natural garden soil, which is very sandy, and these are also showing signs of going off. In the first batch about 20 per cent. is going off, but the remaining 80 per cent. is perfectly healthy and now showing buds.—W. M.

* * The plants sent are suffering from a disease that attacks the bulbs and ascends to the central core. By cutting open a few, it was noticed that the disease had extended from one-third to one-half in an upward direction, the root fibres as a result being discoloured. The disease is in effect somewhat similar to that attacking *Gladiolus* *The Bride*. Is it possible the *Freesias* have been grown on land where these latter have been grown and so become contaminated? So far as can be gathered, there is no error of culture, as by the plants growing in boxes all should fail should this be the case. The fact, too, that the failure only occurred recently, and that the crop in the open is similarly affected, points to disease in the stock rather than aught else. Were it otherwise and the portion in boxes diseased, it would appear the root-fibres had come into contact with some objectionable matter. Even now this may be so of the stock in both instances, though this may be determined by examining a few bulbs the moment the disease is first noted. Then if the root fibres were healthy save for the extreme points, the cause would be some deleterious agent in the soil. If the points of the roots are quite healthy at this stage, and the point of attachment with the bulb, as also the bulb itself, diseased, the fault rests with the bulb. The point is worth deciding, as the soil may be treated specially. If, however, the fault is with the bulb, as we surmise, the only remedy is to draw out and burn all affected plants.—ED.

Jasminum Sambac.—This is well worth growing where heat and space can be afforded, its pure white flowers produced in small cymes being forthcoming the greater part of the year. It succeeds equally well planted in the border to cover a pillar, or grown in a pot and trained to a trellis. A suitable compost is sandy peat, fibrous loam, and decomposed leaf-mould in equal proportions, adding enough broken charcoal and sand to keep the whole porous.—J. L.

Andromedas as pot plants.—*Andromeda japonica* and its near relatives, *floribunda* and *speciosa*, have a very nice appearance when flowered under glass. Some years ago I had occasion to admire a tolerably large specimen of *A. floribunda* which in early spring occupied a prominent position in the show house of a local florist. It was always crowded with flowers and had a most attractive appearance. With a little care these *Andromedas* may be maintained in health for years in large pots or tubs, and may be used for decoration where more tender things would suffer. For corridors or similar places where little or no artificial warmth is maintained these charming evergreen-flowering shrubs are of great value. *A. japonica* forms its flower-trusses in the autumn and is apt to suffer in the open in severe winters. In a cool house it gets just the shelter it needs, retains its foliage in a fresh green condition, and expands its flowers at a very early period. All that the plants need during the summer is a little shelter from hot sun, with plenty of water in dry weather.—J. C., *Byfleet*.

TREES AND SHRUBS.

PAULOWNIA IMPERIALIS.

THE *Paulownia* as cultivated in Europe is made to serve two distinct purposes. It is grown in its natural form—a medium-sized tree with striking foliage and flowers of singular beauty. It is also grown in the sub-tropical garden, under special treatment, for the sake of its immense foliage only. An example of the latter method is shown in the accompanying illustration. Unfortunately, we in England but rarely see it in all its natural beauty. In the milder parts of the kingdom trees 30 feet to 40 feet high may be seen, but even there it does not flower with the regularity and profusion one notices in France, even as far north as Paris. In maturity the *Paulownia* may easily be mis-

the *Jardin des Plantes* at Paris; 150 terminal bunches, bearing each twenty to thirty flowers, make the tree appear like a single bouquet of light blue flowers." Those who have not seen it in flower will get the best idea of the beauty of the *Paulownia* by turning to *THE GARDEN* for April 2, 1892, where there is a coloured plate drawn by Mrs. Dalglish in a garden at Pau, in South-Western France. It forms its flower-buds in autumn, but they do not expand till the following May in France, not till June in England. They are borne on terminal racemes, and in shape are not unlike a *Thunbergia* flower or a very large *Foxglove* (it does, indeed, belong to the same natural order as the latter). The colour is a pale violet-blue. A fine specimen studded with its noble racemes is a most beautiful picture. The species is undoubtedly a native of China. Dr. Henry has



A group of *Paulownia imperialis* in the Royal Gardens, Kew. From a photograph by G. Champion.

taken for a *Catalpa*, having leaves of much the same size and character. In the early days of its cultivation in England *Catalpas* were frequently sold as *Paulownia*.

The first plant seen in Europe was raised by Mons. Neumann in Paris in 1834. It is not a true native of Japan, but the first seeds were sent from that country. Of these, however, only one germinated. The plant was carefully protected and at first housed in winter, but was soon found to be hardy in Paris. It first flowered in 1842. Referring to this plant a writer in the *Revue Horticole* for 1844 observes: "The parent of all the *Paulownias*, which have now been distributed through the gardens of Europe, has just flowered for the third time in

found it wild in various mountain localities. It has generally been considered a native also of Japan, but according to Professor Sargent it has only been introduced there. It is naturally a round-topped tree, 40 feet to 50 feet high.

To us, however, whose gardens are situated where the climatic conditions do not allow of the *Paulownia* being grown as a flowering tree—and this, of course, is due to lack of intense sunshine such as it enjoys on the Continent and to our treacherous springs—the mode of cultivation illustrated on this page is of more immediate interest. The photograph from which the engraving was made is one of a group of *Paulownias* in the Royal Gardens, Kew, where it is grown simply for the summer

effect of its foliage. The object is, of course, to get the leaves as large as possible. The plants are set out 3 feet to 4 feet apart, and are confined to a single stem. During one season this grows from 10 feet to 12 feet high, and is 7 inches or so in circumference at the base. The largest leaves measure 26 inches across. The treatment is as follows: Before growth recommences in spring the old stems are cut back to within 1 inch or 2 inches of the previous year's wood. Several young shoots start away, all of which except the two strongest are removed. These are left for a short time for fear of an accident happening to one of them, but as soon as they are well started the weaker one is cut off. The plants should be given a rich loamy soil to grow in, and a thick dressing of manure should be applied during the period of quickest growth, when frequent waterings also are beneficial if the weather be dry and hot. A group of plants thus grown makes a noble feature. The group illustrated is near the main gate at Kew, and there are others in a different part of the grounds. On Sunday afternoons in late summer, when the leaves have reached their fullest size, there is often a regular procession of visitors across the lawns to more closely inspect them.

P. imperialis is very easily propagated and can now be obtained cheaply, although in its early days as much as £5 was asked for small plants. It can be raised from root-cuttings taken off in spring as growth recommences; the roots should be cut into pieces 1 inch or 2 inches long and put into small pots of light soil plunged in a brisk bottom heat. Cuttings of the stem growth will also root readily when treated in the same way, but they have to be taken later, when the young shoots are a few inches long.

PAULOWNIA FORTUNEI is another Chinese species of which but little is yet known in Europe. It was described by Mr. W. B. Hemsley eight years ago in the Linnean Society's journal, and seems to have first been discovered by Robt. Fortune in some locality in China he did not record. It was not introduced till quite recently, when what is believed to be the plant has been received by M. Maurice de Vilmorin from China. It is now in cultivation at Kew. According to Mr. Hemsley, it is "readily distinguished from *P. imperialis* by its much elongated leaves, covered beneath with a pallid, almost white, very short, and dense tomentum, and by the longer, relatively narrower flowers and larger fruit." It is evidently a beautiful tree. W. J. B.

KITCHEN GARDEN.

EARLY RHUBARB.

EARLY Rhubarb is an important crop in most gardens, yet it is not always the best method is adopted for its production. A position shaded by trees or other objects is unsuitable for the growth of roots which are to be lifted for early forcing, although it may do very well for later kinds that are to make their growth under natural conditions. Few now-a-days, even where leaves are plentiful, care to force their earliest batches by means of pots and leaves, choosing rather to raise young stools annually or biennially, lift when two years old, and place in a Mushroom or forcing house. The position allotted to the seedlings should be an open, sunny one, so that growth may be matured early, but sloping borders should be avoided, as the roots in dry summers may require watering in order to prevent a premature ripening, as when this happens and a wet time follows a secondary growth is apt to start

rendering the crowns unfit for early lifting. Where practicable, it is a good plan to sow the seed in a frame in which Potatoes have been forced, as the gentle bottom-heat favours an early and strong growth. There are various kinds recommended for early work, but I am certain none is better than the true Prince Albert. I am not sure whether the variety named Royal Albert is the same, but the true sort forces so readily that I have seen it pushing through slight mounds of leaves and litter early in the new year. What I prefer is a heated pit in which a bed of leaves can be placed in which to plunge the stools. These also give off a genial moisture, and good flavoured sticks are produced. Old-fashioned vineries have sometimes a brick pit. This answers the same purpose. Failing either of these, the Mushroom house will grow it well. For pulling at the end of January and throughout February I prefer having a good-sized permanent bed of Prince Albert, so that one half can be forced one year and the other the next. If a good width is left between the rows and some 4 feet between each root, stout short stakes can then be driven in round each so as to form a square, these being encompassed with hay-bands to prevent the leaves falling on to the stools, and the intervening spaces filled in with leaves and linings built up at the sides. After laying a few leaves or a little litter over the crowns, small square lights made to fit exactly are laid on the top and the whole covered with straw. The lights can be easily removed for pulling, and when this is completed for the season, abundance of light can reach the stools to strengthen growth until the lights can be left off altogether. Prince Albert, although rather small, is of good colour and excellent flavour. Whatever variety is grown, it always pays for a liberal mulch, and, if time can be spared, one or two annual soakings with liquid manure.

N.

Sandringham Winter White Broccoli.—This season the above Broccoli is good. The seed was sown in April, and the seedlings were ready to plant out before the dry weather set in. The plants, set out in rather firm land not recently manured, went away at once, and have given a fine crop of pure white heads, not large, but of excellent quality. In shape it is not unlike the old Snow's Winter White. The Sandringham is not a coarse grower. It is distinct in leaf and growth, being very compact, and gives a pure white head with close, hard curd, the leaves folding well over and protecting the flower.—G. W.

Cauliflower Mont Blanc.—Those who need early Cauliflowers will do well to add this. It is one of the best I have grown. Last season this was sown in heat to give a succession to the autumn-sown plants, and it did so well that I am giving it a trial sown in the autumn. Few growers are overdone with Cauliflowers in May, and I think Mont Blanc one of the earliest. The plants are very dwarf, not unlike the Dwarf Erfurt in this respect, but the foliage differs. The heads are pure white and of fine quality. This kind if sown in January may be had fit for use in the early part of June.—S. H. B.

Broccoli Michaelmas White.—For two seasons I have given the Michaelmas White a prominent place, and it is a very fine type. Some growers may think the heads too large in rich soil, but this can easily be avoided by cutting in a young state or by sowing a little later for October use. I sow in April for November supplies, or a little later for early winter. The plants may then be grown much closer together and will be of great value. At this season it may be necessary to lift when the heads are formed, but the variety named will remain good for weeks in a

cool cellar. The heads being pure white are of splendid quality, and come in well after the earliest varieties.—S. H. B.

New Pea Early Morn.—For sowing in pots, frames, or in the open ground for first supplies, Peas will now claim attention. For three seasons I have grown this variety and find it excellent in every way. Mr. Crawford some time ago wrote very highly of this new variety. Those who have grown the excellent Stratagem, one of its parents, will not be disappointed with Early Morn, as though lacking the size of Stratagem, the quality is as good and the gain in earliness is immense. It is a fine Pea for frame or pot culture, with true Marrow flavour, and being dwarf is doubly useful, as in pots it fruits freely and does not exceed 2 feet in height. Sown in pots at this season for planting out it will flower early in April and mature pods in May.—S. H. B.

Broad Beans in pots.—Those who like Broad Beans as early as possible may secure them quite three weeks or a month in advance of those raised in the open border if sown in pots now and wintered in cold frames. Many growers sow for an early supply in pots or boxes, mostly in the latter, but in January or February, and place in heat at the start. This I do not advise. Formerly I grew my earliest plants thus, but they suffer after planting out in severe weather. If grown quite cool from the start there is a sturdier plant and less trouble at planting, as, if well moulded up, they need no further shelter. I sow in November for May supplies, and in cold springs the produce even then may not turn in till early in June, but even then considerably earlier than from seed sown in the open. It is advisable to use 5-inch pots, not crowding the plants, growing near the glass in cold frames, and merely covering in severe weather. An Early Longpod is the best kind to sow. These plant out well. From boxes they do not lift so well, as the roots get matted.—S. M.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

DECEMBER 6, 7, AND 8.

THIS show was distinctly above the average for the December meeting, and would have been still better but for the fact that during the last week so many excellent Chrysanthemums were lost through damp and fog, and on this account entries in some of the classes were not forthcoming. However, in many of the classes the competition was good. Japanese blooms, as usual, predominated, and those from the north left little to be desired in point of quality. There were some exceptionally good incurved and single-flowered sorts, and the vases of Chrysanthemums and foliage were also very good. Of the trade displays, two particularly good groups of blooms arranged in vases, &c., were the chief features. On this occasion the whole of the exhibits were arranged on the ground floor of the building, and in this way a far more imposing spectacle was presented to the visitors.

PLANTS.

On this occasion, the first for a long time, there was an entry in the class for six specimen single varieties, bush grown, trained or untrained, this coming from Mr. W. Davey, gardener to Mr. C. C. Paine, Hillfield, Haverstock Hill, N.W. The varieties were Kate Williams (two), a good rich yellow; Eucharis, pure white; Admiral Sir T. Symonds, and Earlswood, terra-cotta (two), a dull and dowdy-looking flower, these receiving first prize.

CUT BLOOMS.—OPEN.

There were no less than six competitors for twenty-four Japanese Chrysanthemums in not less than eighteen varieties, and not more than two of a variety. First prize fell to Mr. T. Lunt, gardener to Mr. Archibald Stirling, Keir House, Dunblane, N.B., with a remarkably fine stand of

blossoms, beautifully fresh and highly coloured, and embracing a number of individual flowers of the highest quality. Specially good were Simplicity, Graphic, M. Hoste, John Seward, Mrs. F. A. Bevan, Matthew Hodgson, Niveum, M. Gruyer, Mary Molyneux, and Mrs. H. Weeks. Second honours were secured by Mr. R. Kenyon, gardener to Mr. A. F. Hills, Monkham, Woodford Green, Essex, also with a nice lot of flowers, including good blossoms of Etoile de Lyon, Matthew Hodgson, Iserette (a useful reddish brown), Oceana, Mme. Carnot, Papa Veillard, and John Pockett. For the prizes offered for twenty-four bunches of Chrysanthemums, any varieties, pompons allowed, to be set up in bottles, the five exhibits covered a large space and made a brave display. Large, bold, handsome blossoms secured first prize for Mr. W. Howe, gardener to Sir Henry Tate, Bart., Park Hill, Streatham Common, who might have improved his arrangement of the flowers and also have named them. Etoile de Lyon, Niveum, and bold incurved blossoms of Tée Egyptian stood out prominently. Second prize was well merited by Mr. Norman Davis, Framfield, Sussex, who had a pretty lot of blossoms embracing large exhibition flowers of Mme. Carnot, G. J. Warren, and Western King, and a nice variety of decorative sorts of good colour, such as Tuxedo, the most useful of the clear bright bronze-coloured December sorts, and King of the Plumes, a rich yellow. There were nine competitors in the class for twelve Japanese blossoms, distinct, Mr. Lunt again leading with a bright, clean, fresh lot of flowers, including well-developed specimens of Louise, Edith Tabor, Matthew Hodgson, Graphic, Oceana, Simplicity, M. Gruyer, Australie, and Niveum. A good second was Mr. R. C. Notcutt, Broughton Nursery, Ipswich, who had smaller flowers, but very fresh and neat. Master H. Tucker, C. W. Richardson, G. J. Warren, Nyanza, and Amiral Avelan were his best kinds. An entry of eight for six Japanese distinct was another good class, premier honours resting with Mr. J. Sandford, gardener to Mr. G. W. Wright-Ingle, Woodhouse, Finchley, with a meritorious stand containing good examples of Silver King, C. W. Richardson, Mme. Carnot, Golden Gate, Simplicity, and G. J. Warren. A very close second was Mr. Lunt, who staged handsome blossoms of Matthew Hodgson, G. J. Warren, Simplicity, and Australie. A display of a high order of merit was seen in the class provided for twelve incurved, not less than six varieties and not more than two of a variety. It is doubtful whether a better lot has ever been staged at any previous exhibition. In this class Mr. F. King, gardener to Mr. A. F. Perkins, Oak Dene, Holmwood, Surrey, was first with notable examples of Mlle. Lucia Faure, Miss Violet Foster, l'Amethiste, The Egyptian, Bonnie Dundee, Lord Rosebery, and Miss Phyllis Fowler. Second prize was won by Mr. F. G. Foster, Brockhampton Nurseries, Havan, also with a handsome lot of blossoms, but less even and regular. For twelve bunches Japanese, staged in bottles, Mr. R. C. Norcutt appeared to be the only competitor and was awarded first prize. Silver King, Lady Northcote, Mrs. Maliny Grant, Matthew Hodgson, Golden Gate, C. W. Richardson, and Etoile de Lyon were the best. Of the three competitors for six bunches Japanese, Mr. John Heath, gardener to Mr. A. W. Chapman, Crooksbury, Farnham, was a good first, having fresh flowers of Oceana, M. Gruyer, Australie, and Western King. Second prize was awarded to Mr. George Elder, gardener to Mr. J. Benson, The Oaks, Walton, near Epsom, who had smaller, yet pleasing flowers. The display of large-flowered single varieties was specially good. The chief class was for twelve bunches large-flowered, three blossoms in a bunch, and arranged in vases. Mr. G. W. Forbes, gardener to Mme. Nicols, Regent House, Surbiton, secured leading honours with some of the finest blossoms we have seen, Admiral Sir Thos. Symonds, Rudbeckia, Victoria, Purity, Tuscola, Earlswood Glory, T. Grant, and J. Arter being well represented. Second prize was awarded to Mr. A. Felgate, gardener to Her Grace Eliza-

beth, Duchess of Wellington, Burhill, Walton-on-Thames, who had smaller, though very charming blossoms. Mr. G. W. Forbes again led in the class for twelve bunches small-flowered single varieties, setting up most delightful little blossoms of Little Pet, Mrs. D. B. Crane, one of the prettiest; Annie Tweed, Alice, Nora and Miss Mary Anderson. Had these smaller flowers been set up in bunches of six the effect would have been still better. Second prize was secured by Mr. W. C. Pagram, gardener to Mr. J. Courtenay, The Whins, Weybridge, Surrey, with a neat lot of flowers. Of the three competitors for six bunches large-flowered singles, Mr. A. Felgate, jun., nurseryman, Hersham, Walton-on-Thames, was first, staging Captain Felgate, Mrs. Felgate, Yellow Giant and Duchess Elizabeth in fine form. To Mr. J. Tullett, gardener to Mr. G. Alexander, Warley Lodge, Brentwood, second prize was awarded, his best flowers being Rudbeckia, Effie, Golden Star, Geo. Rose and Kate Williams. Mr. Tullett also led in the class for six bunches small-flowered singles with a pretty lot of blossoms. Second honours were awarded to Mr. A. Page, gardener to Mr. A. L. Reynolds, Ravenscroft, Moss Hall Grove, Finchley, N., with a useful lot, but unnamed. A goodly entry was forthcoming in the competition for a large vase of Chrysanthemums arranged with any kind of foliage, grasses or berries. In this Miss Easterbrook, The Briars, Fawkham, Kent, excelled, arranging with perfect taste an immense trumpet vase with large yellow and white Chrysanthemums, relieved by a few sprays of the pretty little spidery flowers of the yellow Mrs. Filkins and pompon Snowdrop. The arrangement was finished with trailing growths of Asparagus and Smilax. Second prize was awarded to Miss C. B. Cole, The Vineyard, Feltham, with a much smaller arrangement, and in which a proper finish was hardly followed. A pretty feature of this exhibition is a class for a hand-basket of natural autumn berries and foliage. In this Miss C. B. Cole was first with a bright and charming arrangement of berries and foliage, the former predominating. Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlawn, Wimbledon Common, was a good second, having a great wealth of berries, but lacking the artistic finish which characterised the leading exhibit. For the special prizes offered by Mr. C. W. Richardson, Sawbridgeworth, for twelve Japanese distinct, open to single-handed gardeners only, there were three exhibitors, each of somewhat poor quality. First prize fell to the lot of Mr. A. Honey, gardener to Mr. G. H. Cox, The Grange, East Barnet, and second prize was awarded to Mr. F. Bush, gardener to Mr. W. T. Lister, Rose Hill, Totteridge, Herts.

AMATEURS.

For twelve Japanese blossoms, distinct, Mr. W. Perrin, gardener to Mr. C. W. Richardson, Sawbridgeworth, was first with clean, neat, though small flowers, Master H. Tucker, Mme. Carnot and Vivian Morel being his best examples. Mr. H. Love, Melville Terrace, Sandown, Isle of Wight, was second, deep coloured flowers, such as John Neville, Matthew Hodgson, predominating. For six Japanese, distinct, Mr. L. Gooch, gardener to Mr. T. Wickham Jones, was first, his stand containing blossoms of Lady Hanham, Mme. Carnot, Mlle. Thérèse Key and a phenomenal bloom of G. J. Warren. Mr. W. Perrin was second with a somewhat dull stand of blossoms. For a large vase of Chrysanthemums, Mr. Pagram was first with a charming lot of flowers, but set up without any attempt at a proper finish, and Mr. A. Page was second with a somewhat informal arrangement. For *bond-fide* amateurs, three classes were provided, a class for six Japanese, not less than four varieties, bringing out five competitors. Mr. G. C. Farmer, Leeds Abbey, near Maidstone, was first with a splendid stand of flowers, his G. J. Warren, Mme. Carnot, Mons. Gruyer and M. Demay-Taillandier calling for notice. A poorer lot of flowers secured second position for Mr. F. Durrant, 4, New Road, Ware, Herts. In the class for a large vase of Chrysanthemums, Mr.

D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, N., was first with a charming vase of the curious little Japanese Mrs. Filkins, interspersed with a few sprays of the yellow Snowdrop and a single or two. Second prize was awarded to Mr. A. Taylor, 5, Vernon Terrace, East Finchley, N., with a nice bold arrangement.

MISCELLANEOUS PLANTS.

There was a falling off under this heading as compared with other years. In the class for a collection of Cyclamens, Mr. William Orpwood, Andover Nursery, Uxbridge, was the only competitor, first prize being awarded to him for a large table of grand plants, freely flowered and also of good quality. Mr. Orpwood also was the only competitor for a collection of Primula sinensis, staging a nice lot of fairly well-flowered plants. By far the prettiest class under this heading was that for a table arranged with a collection of flowering, berried and fine-foliaged plants on a space 9 feet by 6 feet. A magnificent table arranged by Mr. A. Newell easily secured leading honours, this being carried out with great taste, and included pretty examples of Bouvardias in varying shades of colour, Roman Hyacinths, Poinsettias, Cyclamens, Begonia Gloire de Lorraine and other flowering plants, charmingly associated with neat and pretty specimens of Cocos Weddelliana, Crotons, Dracenas, &c., with Panicum variegatum and other plants of a similar description overhanging the edges of the table in a delightful manner. Mr. Howe was second with a table of plants of high quality, but not so well set up and embracing a too liberal use of Begonia Gloire de Lorraine.

MISCELLANEOUS EXHIBITS.

A large gold medal was won by Mr. Norman Davis, Framfield, for an immense table arranged across the building, draped in green, and upon which large oriental and other vases, hand-baskets, and designs were pleasingly and artistically disposed. Huge blossoms of Mme. Carnot and G. J. Warren were the chief points of merit in the vases and in the stands, not the least important being the charming variety of decorative Chrysanthemums utilised, including such sorts as Tuxedo, King of the Plumes, Framfield Pink, Mme. Felix Perrin, Mrs. J. Carter, and many others. Individual blossoms of novelties were also disposed along the front. A gold medal was also secured by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, S.E., for an equally fine group. The vases of blossoms, which were very numerous, were arranged with considerable taste, and the table was faced with some fourteen dozen flowers of leading novelties and standard Japanese sorts, including G. J. Warren, Julia Scaramanga, Western King, President Bevan, Pride of Ryecroft, Mlle. Laurence Lede, and Iserette. Messrs. H. Cannell and Sons, Swanley, had a long table either end filled with a group of Begonia Gloire de Lorraine and other winter flowering Begonias. Some sixty bunches of zonal Pelargoniums in wonderful variety of colour were very striking. In addition there was a pleasing assortment of decorative Chrysanthemums, including the white Mrs. Filkins (Mrs. Harvey), well meriting the gold medal this exhibit gained. Mr. Robt. Owen, Maidenhead, also had a good display of Chrysanthemums on boards and in vases, many excellent and promising seedlings finding a place. Mary Molyneux and Mr. M. Viersfeld were conspicuous in this exhibit (silver-gilt medal). Mr. T. S. Ware, Ltd., had a small table of Chrysanthemums, and Mr. A. Felgate, Jun., Hersham, a group of his Red L. Canning, a grand reddish crimson for late work. The Ichthem Guano Co. and Lawes' Manure Co. each had a useful exhibit, nor must we omit to mention the pretty rustic table decorations put up by Mr. T. Williams, 4A, Oxford Road, Ealing.

FLORAL COMMITTEE.

On Tuesday last the floral committee of the above society held its final meeting for the pre-

sent season at the Royal Aquarium, Westminster, Mr. T. Bevan occupying the chair.

Only two first-class certificates were awarded, viz., to—

CHRYSANthemum MME. R. CADBURY. — A Japanese of large size, and with long close florets of medium width, slightly curly at the tips and drooping. The blooms are deep in build and of good substance; colour pale creamy white. Shown by Mr. H. Weeks.

CHRYSANthemum RED L. CANNING. — A Japanese, a late free-flowering decorative variety, with flat florets of a rather sombre chestnut-crimson. From Mr. A. Felgate, jun.

Among others worthy of mention were J. R. Upton, a fine colonial-raised yellow Japanese of great size, which the committee asked to see again; Mrs. T. Dalton, another of the same section, very large and attractive, colour deep golden yellow, flushed carmine; and a large white variety called Mrs. N. Simpson. The committee next arranged its series of meetings for 1899, which are fixed as follows: September 27, October 10 and 25, November 1, 15, and 22, and December 5. It was also arranged that the annual dinner of the committee should take place on Monday, the 12th instant. The classification committee will also hold a meeting at the same time.

The annual dinner of this society was held in the Crown Room of the Holborn Restaurant on Wednesday, the 30th ult., Sir Albert K. Rollitt, M.P., in the chair. Ladies for the first time were present, and a very successful and enjoyable gathering it was.

After the toast of "The Queen and Royal Family" had been duly given and honoured, Mr. Percy Waterer proposed "The Donors of Special Prizes," reminding the company of the fine exhibits and keen competition in the class for twenty four cut blooms of Japanese for the prize offered by the Royal Aquarium Co., and also referred to the special prizes given to the society by Messrs. H. J. Jones, Deverill, Sutton, Sydenham, and Richardson. Mr. Waterer then proceeded to comment on the Chrysanthemum rust, and said he would offer £5 5s. for a good essay upon the fungus. The toast was replied to by Mr. J. W. Wilkinson and Mr. H. J. Jones. The next item on the programme was the presentation, by the chairman, of the national challenge trophy to the secretary of the Portsmouth and District Chrysanthemum Society, the Holmes Memorial cups and medals won at the recent November show, which furnished the chairman with several opportunities of displaying his ability to interest and amuse the company in a manner seldom experienced at the annual dinner. The toast of the evening was that of "The National Chrysanthemum Society," which was proposed by Sir Albert in a peculiarly happy mood. He referred to the time in 1884 when, as Mayor of Hull, he opened the first Chrysanthemum show there, and expressed his pleasure in finding that there were present several of his fellow-townsmen that evening. He considered it a public duty to recommend the cultivation of flowers, as it was the purest and highest form of enjoyment. Speaking of the Chrysanthemum, he said it was a plant well worthy of the care that had been bestowed upon it. To a large extent it had remained stationary in its old home in China, but how wonderful had been its improvement when once introduced into a civilised nation. The chairman then compared the old Tulip mania with the present widespread interest in the Chrysanthemum, and expressed his pleasure that it had never reached the stage of speculation that the Tulip had in days gone by, and which had to be suppressed by Government. He also remarked upon the progress of the society since its early days in the north of London, and said he could only regard it as an excellent national institution and hoped that it might continue to flourish. The toast was received with acclamation. Mr. E. Harland, of Hull, proposed "The Presidents, Vice-Presidents, Officers, Auditors, and Com-

mittees," and this was responded to by Mr. C. Harman-Payne and Mr. A. E. Stubbs.

The chairman's opportunity of proving the fitness of his selection was again fully exemplified when he rose to propose "The Ladies," which he did in his happiest vein. Mr. Leonard Brown responded. Then Mr. T. W. Sanders gave "The Chairman," and in the course of his remarks called attention to the many positions of public importance that Sir Albert occupied, and expressed a hope that he would be present at a future meeting. Sir Albert replied, thanking those present for the cordial reception they had given him. Gardening, he said, was part of his every-day recreation. He had visited their show at the Aquarium, and was pleased with what he had seen there. "The Press" was proposed by Mr. R. Fife, and responded to by Mr. George Gordon, who reminded them that much of the popularity that the society enjoyed was due to the press.

There was a large company present, numbering in all 143 persons, and the fair sex was well represented. The tables were tastefully decorated with cut Chrysanthemums, arranged in some large Japanese vases kindly lent by Mr. H. J. Jones. The musical arrangements were under the charge of Mr. A. Taylor.

Royal Horticultural Society. — The last meeting this year of the Royal Horticultural Society will take place next Tuesday, the 13th inst., in the Drill Hall, James Street, Westminster, when the fruit, floral, and Orchid committees will meet as usual at 12 o'clock. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Geo. Henslow, M.A., V.M.H., at 3 o'clock.

NOTES OF THE WEEK.

Violet Princess of Wales. — The newer kinds of sweet Violet add very much to the interest of a very ancient culture, and this old kind is sent us in a fine state by Mr. J. Burn, florist, of Cromer.

Diospyros Kaki (Date Plum). — A specimen of this interesting Japanese tree is now carrying eight of its large and handsome fruits in the large succulent house at Kew. The largest fruits are the size of a good-sized Orange, and at a short distance not unlike it in colour. Unfortunately, at this stage the tree loses its leaves, otherwise its attractiveness would be increased.

Dianthus pinifolius. — Till the heavy and almost continuous rains of the past few days began, this pretty Grecian Pink was flowering freely in the open. The plant, in the clustered heads of flowers, may be likened to a small form of *D. cruentus*. In height, however, it is not more than half of the last-named, or about 8 inches. The very compact tufts are, however, crowded with the spikes of flowers of a lilac-purple shade. In the fineness of its foliage it resembles the minute Pine points: hence probably its specific name. It is an interesting as well as free-flowering alpine.

Galanthus species from Albania. — The second Snowdrop to flower this season here has been one of several received by way of Holland as "species from Albania," probably *Galanthus octobrensis*. I have had these Snowdrops for several years and they have proved as a whole fairly good growers. The one now in bloom was selected two years ago and placed by itself. It opened on December 2. Snowdrops are as a rule not making so much progress as one has seen in some former seasons. — S. ARNOTT, *Carsethorn, by Dumfries, N. B.*

Crassula Saxifraga. — The dainty white, pink-tinted blossoms of this pretty species above the somewhat fleshy and nearly orbicular leaves appear in striking contrast, and form one of the prettiest objects now open. The smooth, spreading leaves cover the whole surface of the soil, the small scapes arising in the midst and bearing several of the pretty blossoms in an umbel. The whole plant is not more than 4 inches or 5 inches high, yet sufficiently attractive to at once catch the eye. It should prove a charming

companion plant to *Saintpaulia ionantha*, though the latter is more spreading.

Solanum macrocarpum. — This may be counted among the more attractive as well as interesting species of this genus, the smooth and rounded fruits being about 1½ inches in diameter. The habit of growth is very distinct, the plant being studded with spines all along the stems. The rather shapely fruits occur at intervals on the branches and are of a dull red shade. Another species also fruiting at the present time is *S. integrifolium*. In this the fruits are considerably corrugated. This kind, however, has more highly-coloured fruits, these inclining to scarlet. Both species are fruiting at Kew in the large greenhouse at the present time.

Calluna vulgaris aurea. — The hardy Heaths are all very beautiful in winter, their foliage doing much to redeem many parts of the garden from their wintry bareness. This variety of *Calluna* (or *Erica*, so-called) *vulgaris* is distinct from the others by reason of the golden colour of its young growths. The term "golden" is perhaps rather far fetched, but one can hardly find a better word for the bright yellow-green of this Heath. A good contrast is afforded by the deep green of *C. vulgaris* Foxi, which I have growing alongside *C. v. aurea*. *Erica mediterranea alba* has its branches already beaded with flower-buds. — S. ARNOTT, *Carsethorn, by Dumfries, N. B.*

Hyacinthus amethystinus. — The only reason for naming this plant at this time is to urge the planting of it in quantity in the open border or the woodland. The species is somewhat late-flowering, usually from the middle to the end of May, but the beauty of the plant is sufficient guarantee for its being grown by the hundred or thousand, instead of as now being rarely seen. Indeed, the lateness of its flowering is valuable in extending the season of such things in the open ground. The pretty shade of blue seen in the flowers is well conveyed in the specific name. There is also a white variety equally good if less plentiful. Both kinds may be had at a cheap rate in the dry state, and established in the garden are very effective.

Senecio macroglossus (African or Ivy-leaved Groundsel). — The genus *Senecio* is perhaps among the most varied of any that could be named. Take the above named plant and compare it with the Rush-leaved Groundsel (*S. juncus*), *S. grandifolius*, or the well known perennial kind, *S. pulcher*, and you have a set of species bearing externally no evidence whatever of the relationship that exists between them. As a greenhouse climber the species above-mentioned is a very pretty and pleasing object. Very pretty, too, are the Marguerite-like blossoms, likewise distinct in colour, a sort of chrome-buff shade pervading the ray florets. These forming the flower-head are about 2 inches across, and if not particularly abundant, occur with sufficient frequency to make the plant a useful subject in the greenhouse.

Eugenia Ugni. — I enclose fruiting branches of *Myrtus Luma* (*Eugenia apiculata*) and *Eugenia Ugni*. I wish to call your attention to them, as I think their merits are not sufficiently known. *E. Ugni* never fails to bear a profusely abundant crop of very pleasantly flavoured red berries which, to my thinking, make an excellent tart. I have had about a dozen of these since summer, and can speak of their value. One bush is about thirty years old, but a younger one, in peatier soil, bears a better berry. *E. Luma* has a larger (black) berry, good enough to eat, but is not so good as the other in pastry. It is a more beautiful Myrtle than *Ugni* in flower, the flowers being larger and purer white. It is a lovely thing. Both seem very hardy, never suffering in any weather here, as the common Myrtle sometimes does. — H. C. HART, *Dublin*.

Ornamental Vines. — I was very much interested in Mr. Bean's paper on these graceful plants, and should like to hear from whence cuttings of the old variety of hardy or open-air Grape called Dusty Miller, or Miller's Burgundy, can be obtained. As to the Japanese *Vitis Cignetia*,

it seems to be very variable from seed, some of the forms having no trace of the wash-leather-like tomentum behind the leaves. In pots or small tubs of loam, lime rubbish, and wood ashes it colours finely in a cool house, or, if not too liberally treated, on a S.W. wall. The Claret-leaved Vine, where it grows well, is one of the finest of all in colour, darker and richer than the Tinturier forms, which have more or less marbled foliage. Apart from fine-foliage effects, some of the wild Vines from America have very fragrant flowers and their fruit is ornamental.—F. W. BURBIDGE.

Bomarea Carderi.—It may not occur to growers of hardy plants how very closely the flowers of some species of the above genus individually resemble the *Alströmérias*, yet if a bloom be examined the shape and the curious markings will be found in general agreement with those of the hardy plants named, or at least some of them. One point, however, possessed by *Bomareas* is lacking in the other group, viz., the long time the former remain in flower. Frequently this may be counted by weeks, and as the number of flowers is large the flowering example is attractive a long time. This is a valuable item in a group of plants so generally easy of culture. In the species named the flowers are long and pendulous, the outer segments rose, and the interior freely spotted with purple and brown. It is a native of Colombia.

Primula Forbesi.—The profuse flowering so characteristic of this pretty species is even now shown by the constant endeavour of the plants to send forth spikes of bloom. Remembering, too, the varied character of the weather during recent weeks, the above fact speaks as much for the generally hardy nature of the plant as its persistency in flowering. Indeed, all that is needed to prolong its flowering in southern gardens is a sheet of glass to throw off wet from constant rains. Several of the *Primulas* are nearly perpetual in their flowering, and as much may be said of this pretty kind. The plant, too, that remains in flower several months of the year is one to be specially valued, and when, like this, it may also be freely and easily raised from seeds, it is of greater value still. Freely grouped in the rock garden, Forbes's Primrose is an interesting feature for a long season.

The Strawberry trees.—Both *Cornus capitata* (= *Benthamia fragifera*) and *Arbutus Unedo* have been very fertile and beautiful in Ireland during the autumn and early winter. At Bantry, Fota, Cork, Limerick, and in Wicklow I hear these plants have fruited most luxuriantly, and even near Dublin, and especially at St. Anne's, Clontarf, the *Arbutus* has been laden with its glowing red fruit and pale waxy flowers. Both plants are so quickly and easily reared from seed, that the wonder is they are not more largely grown in the west and southern districts of England, Wales, Ireland, and Scotland, especially in sheltered localities on soils that suit their growth. *Arbutus Unedo* grows so well on the islets at Killybeg, that I often regret that the larger and rarer kinds, such as *A. Andrachne*, *A. hybrida*, *A. procera*, and *A. Croomei*, are not also planted there.—F. W. BURBIDGE.

Lenten Roses (*Helleborus orientalis*).—These plants promise to be very early this season, some seedling forms being in bloom at present along with the forms of *H. niger*, or true Christmas Rose. Some years ago I attempted to cross the great white *H. orientalis*, a noble plant long grown here as *H. olympicus*, with the large early form of *H. niger* called *maximus* or *altifolius*, and one of the resulting seedlings is now in flower. I should not like to say that it is a cross between the two species, and yet it is different in habit and time and mode of flowering from any true Lenten Rose known to me. The flowers are white, borne on long-branched spikes, the flower-stalks being deeply stained with brownish purple. These flower-stalks keep on branching, and will keep up a succession of bloom till next March or April. The heavy rains we have lately had will help Lenten Roses wonderfully, and if the weather

continues mild we shall have a good bloom this season—one of the best for years.—F. W. B.

Galanthus nivalis octobrensis.—Though accredited with being an October flowering species, it is but rarely, if at all, it blooms then. It is, however, no less welcome in mid-December than in October. Of the winter Snowdrop a pretty handful may now be seen at Kew in the hardy plant department, where a cluster is bearing some eight or nine of its blossoms. This is, I believe, an increase on the number of flowers a year ago, but in any case the variety is not noteworthy for its vigour or rapid increase. Frequently in a semi-wild state the common Snowdrop is more vigorous when the bulbs are associated with the roots of some miniature shrub. The root-fibres of the latter take up much of the superfluous moisture that envelops the bulbs during their long dormant period, and which can scarcely benefit the bulbs for so long a time. A similar plan may be worth trying in connection with the above.

Anomatheca (Lapeyrousia) cruenta.—Those who have gardens in mild districts or on light soil might do worse than try a few bulbs of this bright coloured plant. One would not like to say that it is perfectly hardy, as that would be misleading, but it might be tried with advantage in more gardens than at present. In June it is one of the many features of interest in Trinity College Gardens, Dublin, where Mr. Burbidge finds it do well, and where it shows to more advantage in the shade than in full sun. The colouring, with the deep blood-red spot at the base of the segments, looks much brighter in the shade. This South African Irid is now very cheap, and a few bulbs procured and planted after the turn of the year might prove a good investment for some. I grow it here both at the base of a warm wall and in the shade. It is difficult to say whether it looks better by the wall or in the shade. It is later in coming into bloom in the latter position.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Hedera obovata.—Now that deciduous creepers and climbers have lost their foliage, the Ivies and others of evergreen habit become of special interest to those who devote themselves principally to open-air gardening. Among the most distinct of the Ivies is that known as *Hedera obovata*, which one finds referred to *Heptapleurum stellatum* in "Index Kewensis." Its small leaves, whose form is fairly well indicated by the specific name *obovata*, look well on the wall. Collections of Ivies are not often seen, but one is pleased to observe an increasing interest being taken in them. This year I have been in several gardens where collections were being brought together. At Rockville, Murrayfield, Edinburgh, Mr. P. Neill-Fraser has a number growing on trees. They are kept within bounds so as to prevent injury to the trees, and on the occasion of my visit last year formed a feature in a very interesting garden. The one referred to was one of those to be seen there. It is not a rare Ivy, but, all the same, it is not plentiful enough.—S. ARNOTT.

Epiphyllum truncatum.—A particularly fine example of this may now be seen in flower in the large succulent house at Kew. The plant is of exceptional size. The example in question is apparently grafted on a vigorous *Pereskia* stock, which alone appears upwards of 3 feet long. The dimensions of the plant, however, roughly taken will give an idea of the example in question; height from ground nearly 6 feet, diameter of head of branches between 3 feet and 4 feet, a similar space being occupied in the depth of the head, a portion having assumed the ascending and another a drooping position. The health of the plant is remarkable. It is growing in a pot about 18 inches in diameter and has borne a sumptuous array of blossoms. The plant is growing in what appears to be a rather heavy loam, and its present fine health may largely be traced to the careful attention the plant has received from the first. Such things only need to be overwatered

once or twice to bring about their ruin. The roots these plants produce are somewhat meagre, nor does the plant, by reason of a naturally succulent nature, assimilate much moisture. Such excellent examples of good culture are by no means common.

Name wanted.—A relative of mine living at Ningpo, in China, sends me a drawing of a plant growing in his garden which he wants to obtain the name of. He is a good draughtsman, so one may take the figure as correct. The plant appears to be nearly allied to the *Arums*; the spathe is long and narrow; the leaf, which is on a long stalk, is divided into three lobes. The interesting part about the plant is that the leaves bear bulbils or adventitious buds, somewhat similar to those in the axils of the leaves on the flower-stalks of some *Lilies*. In the plant in question, where the trifid leaf joins the leaf-stalk there is a bulbil, and there is another about half-way down the leaf-stalk which seems to force its way through the skin of the stalk, which is somewhat kneeled at that point. I should be very much obliged to anyone who can give me any information about this plant.—G. S. S.

Outdoor labels.—I suppose zinc labels would be cheaper than anything for permanent outdoor work, and they are especially handy on herbaceous borders where it is found advisable to name the different clumps of flowers. The best of them answer the purpose very well indeed, and I have some at the present time, the patent of a writer on hardy plants well known to GARDEN readers, that were written four years ago and still quite clear. Others are not so good; the zinc to outward appearance is brighter than in those named above, but the first rain brings out a scaly matter on the metal sufficiently pronounced to partially obliterate the writing. Each of the types of label was worked in the same way. I cleaned them with fresh ammonia and lettered them with the indelible ink sold for the purpose. There is a great variation in the sheets of zinc, but so far as the material of which labels are made is concerned, I think those responsible for their production should see that it is practically impervious to weather. It is not very pleasant after writing a lot of labels and placing them in position to find after the first rain that it is impossible to distinguish the lettering.—E. BURRELL.

The weather in West Herts.—An extraordinarily warm week for the time of year. The highest temperatures registered during the week were about 10° warmer, while the nights were as much as 14° warmer than their respective averages for the previous twelve Decembers. In fact, on only one night was the lowest reading colder than would have been seasonable in the warmest part of an average December day. On the night preceding the 5th the thermometer exposed on the lawn never fell lower than 51°—making this the warmest night I have yet recorded here in the same month by 5°. The ground at the time of writing (7th inst.) is exceptionally warm, being about 7° warmer than is seasonable at 2 feet deep, and about 8° warmer than is seasonable at 1 foot deep. Rain has fallen during the week to the depth of nearly an inch, but very nearly the whole of that amount fell on the 6th. The weather since the beginning of the month has been extremely gloomy. On three days no sunshine at all was recorded, and on three others there was less than an hour's sunshine. The wind has been, as a rule, high, and the direction always some point between south and west.—E. M., *Berkhamsted.*

Name of plant.—P. Bosanquet.—The Turkey Oak, or one of its varieties.

Names of fruit.—W. Plant.—1, 4, and 5, King of the Pippins; 3, Worcester Pearmain; 7, Norfolk Beaufin; 8, Rymer; 12, Sturmer; others not recognised. We only undertake to name four varieties of fruit in any one week, and it is always advisable to send two typical specimens.—T. W.—1, Cox's Pomona; 2, probably Roundway Magnum Bonum; 3, Yorkshire Greening.

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[DECEMBER 17, 1898

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ORCHARD AND FRUIT GARDEN.

FEEDING PLUM TREES.

CORDON Plum trees are sometimes apt to make too strong growth. Lifting and shortening the strongest roots and transplanting them will rectify this, and once they commence to bear they do not often get out of bounds again, but if they should, the remedy lies in the grower's hands. Even fan-trained trees are frequently disposed to make rank, unfruitful growth, but in this case also lifting as advised for cordons will prove a corrective. Much may be done at planting time to prevent trees making exuberant growth by using calcareous matter, which should be mixed liberally with the compost if a new border has to be made, and with the staple when the soil is naturally rich and fertile. On no account use farmyard or other organic manures at planting time even if the soil is of a poor description, as these are almost sure to bring about unsatisfactory results. For poor soils or those in need of manure, bone-meal may be used with advantage, afterwards feeding the roots from the surface. Although advocating a let-alone policy with regard to the use of organic manures at planting time, I strongly favour their use after the trees have begun to bear, as it is then the latter need assistance. Too often one sees trees literally starved in this respect, and the Plum receives less attention than any other fruit tree. Farmyard manure may be used for top-dressings, while that from the stables makes a capital summer mulch. Artificial manure may be given when the two last-named cannot be afforded. A mulching of some description is useful, especially on warm gravelly soils, as, besides keeping the surface cool and preventing too rapid evaporation, it lessens the need for artificial watering in a dry season. Superphosphate of lime is excellent for Plums, and kainit is also highly recommended, the quantities to use being 2 ozs. of whichever is

given the preference, per square yard. For assisting heavily laden trees to carry through and perfect their crops, liquid manure, bone-meal, and dried blood in combination, guano, and nitrate of soda are useful. The nitrate may be applied at the rate of 2 ozs. to the square yard after the fruit is set, this being repeated after the fruit has stoned and is taking the final swelling. Guano and the other two manures mentioned need not be weighed, as sufficient may be given of either just to colour the surface-soil at each application. Liquid manure may be given as often as moisture is required at the roots, diluting it or not as the case may demand. Manures of any description should, of course, only be applied either at the time the trees are bearing or after the trees have borne heavy crops. On some soils root-watering must have attention in hot, dry seasons if fine juicy fruits are looked for, and an occasional hosing will also tend to keep the foliage clean. Insect attacks, to which Plums are very susceptible, should always be dealt with promptly, as once they gain a footing and the leaves become curled it is almost impossible to reach them with insecticides. Thoroughly cleaning the trees during the winter months goes a long way towards preventing such attacks. No insecticide, in my estimation, equals the wash made with caustic soda and crude potash.

A. W.

Gros Colman Grapes colouring badly.—

Redness in Gros Colman Grape is this season very common. There seem to have been too much strong sunlight and heat; perhaps also, in consequence, none too much root moisture. But the Muscat of Alexandria does not require too much root moisture and likes plenty of light and warmth, hence the berries generally have coloured well. Gros Colman rather likes some shade, but the foliage often begins to fade or discolour early, and when that is so it seems as if colouring matter were directed from the berries to the leaves. Happily, with this Grape blackness of colour is not always associated with the Grape's best flavour, which is never very great. But well-

grown, yet reddish berries often are for the variety the best flavoured.—A. D.

Colour in Muscat Grapes.—Although the competition in Muscat Grapes at the recent Royal Aquarium show was very limited, it was very satisfactory to find that the judges distinctly favoured finish and colour over mere size of bunch. The exhibitor of the largest bunches, certainly a capital grower, had handicapped his exhibit by not thinning sufficiently in the earlier stages of growth. The result was some fine outer berries, very well coloured, and some much smaller ones that were comparatively green. The smaller bunches placed first and second showed very rich golden amber hue and fine finish. It was satisfactory to see due regard paid to these merits. So frequently mere size of bunch weighs with judges, that the greatest merits of Grape culture are often overlooked.—A. D.

Netting indoor Peach trees.—Although Peach trees carrying ripe and ripening fruits may be gone over every day for the purpose of gathering those that are fit, a few will be sure to fall in the interval. When these come into contact with the hard ground they are spoiled either for private use or market. It is an easy matter to suspend some soft material beneath the tree to catch falling fruit. Fish netting is sometimes used, but it is too hard for the tender skins of the Peach and Nectarine, and is very apt to bruise them. The safest plan is to use frigid domes. Lengths used on walls for protecting the blossom of fruit trees answer capitally, and if these are arranged so as to form a double receptacle for the falling fruit, one about half way down the tree and the other near the base, the fruits have only a short distance to fall and are got at easily. A layer of soft hay should be laid in front of dwarf trained trees to catch the fruits which do not fall through the trellis on to the frigid domes.—B. S. N.

Night air for Vines.—An experienced Grape grower and successful exhibitor recently expressed an opinion on night air for vineries. The practice, he maintained, was unnecessary and extravagant. He had abandoned it for the past three years, and with closed ventilators his Grapes had coloured beautifully. What first convinced him that night air was unnecessary was having a vinery in which Gros Colman, Black Alicante

and Gros Maroc were growing. The ventilators had to be kept closed during the night in order to keep up a sufficiently high temperature for the Colman. Yet the two other varieties finished perfectly. Referring to the fine Hamburgs our forefathers grew and ripened in the hottest part of the summer, he said they were obliged to give night air to keep the figure down to 65°, Hamburgs not finishing satisfactorily in a higher one. He admitted that during the extremely hot weather of last August the ventilators had to be left open at night, but in ordinary weather they are closed, conserving fire-heat, the pipes being made lukewarm. It is the practice of admitting air on cold nights and then having to burn fuel to make up the deficiency in heat, that he specially condemns. I confess I never had much faith in the night air system, and the best coloured bunches of Lady Downe's I ever saw were in a vinery which was quite closed every night.—J. C.

Melons.—There has been a comparative paucity of new Melons this year, happily. Probably raisers are beginning to find out that with new varieties they make no advance, for in the matter of flavour, flesh, appearance, freedom, and all other ordinary attributes we are still about where we were in Melons ten or more years ago. When writers on Melons recommend varieties, we hear very much more of old standard ones than of new ones; indeed, so many of the new ones are after all when grown for comparison so much reproductions of old ones. It is very interesting to look through a house in which some twenty to twenty-five assumed varieties, old and new, are growing for trial, and thus note how similar are old and new. A remarkable tribute to the enduring merits of a fine variety thirty years raised, William Tillery, was paid the other day when the raiser, Mr. J. Miller, exhibited it in several fine fruits in first-class condition, and for the time of the year capitally flavoured. We have others, but none green-fleshed that are better. Would that in future years Melon growers when they intercross and produce a variety of seedlings would first grow and select stocks for three or four years before submitting to the fruit committee, and also see how far or how little the seedlings differed from older ones. Only recently when a seedling variety was submitted for approval it was found the flesh of two fruits was of diverse colours.—A. D.

Galvanised wire.—There is no doubt that galvanised wire has been answerable for a lot of wounds on the shoots of fruit trees, both inside and out, and Mr. Hudson has done well to call attention to the same. The remedy, however, if the wire cannot be removed, is not far to seek; simply a twist round the wire and a half knot with any tying material that is employed, and then to tie the shoot so that, in fact, it is simply enveloped in the tying material and does not in any way come into contact with the wire. There may be something in the hot-and-cold-current theory, but it must be remembered that anything in the way of iron (nails, for instance, either cast or wrought) has the same effect where it is pressing on the young bark. So far as the appended note is concerned, I am quite in accord with the Editor for Oak or Chestnut trellising for strong-growing climbing plants, but fail to realise its application for the majority of fruit trees such, for instance, as the Peach, Nectarine, and Morello Cherry. All things considered, however, I do not think any better plan can be found than to fasten the trees to the wall, especially where facilities exist for an annual winter unnailling, and giving the wall a thorough good dressing with some mixture that shall contain sufficient insecticide to kill insects, and be thick enough to stop up the majority of nail holes. Where insects are troublesome it is advisable to dispense with cloth shreds and to use fine tar twine and medicated shreds as fasteners, respectively for old and young wood. For such things as Raspberries, Gooseberries, and Currants, when grown on trellis work I do not see the necessity for dispensing with galvanised wire if twisting the twine preparatory to tying practised, and so far as the two latter

fruits are concerned, this twisting is only necessary with young wood. I have Gooseberries on galvanised wire that have been in their present positions nearly seventeen years, and they are healthy and vigorous, producing annually good crops of fruit.—E. BURRELL.

GOOSEBERRY HEDGES.

I CAN corroborate what Mr. Fish says about Gooseberry trees making good and profitable hedges. I know a village a few miles from Cromer in which some of the cottagers' gardens are divided by hedges formed of Gooseberry trees. These for many years produced abundance of fruit, the varieties being principally smooth and hairy-skinned yellows. The only objection to this mode of planting is that growth is liable to become so dense as to render picking the fruit difficult. I know of one garden where Gooseberries are grown of fine size and quality on wire fences, and this mode of culture might be adopted in many instances where newly-planted orchards or fruit plantations are fenced round. Horizontal wires are the cheapest, these being about a foot apart, wire rabbit-proof netting—the widest procurable—being fixed along the bottom and the Gooseberry trees trained thereto. A border 2½ feet or 3 feet in width and consisting of good holding loam and decayed manure should be prepared. Fan-shaped trees are best, and these are procurable at any good nursery. The branches may be laid in 3 inches or 4 inches apart and the close-spur system of pruning practised. The border should be well mulched with short manure early in spring, and never allowed to become infested with weeds. In dry summers it will be necessary to give several good waterings, and established trees carrying full crops of fruit will be benefited by heavy applications of farmyard liquid. Trees so grown are not so liable to be attacked by bud-eating birds in winter, or fruit-devouring ones in summer as ordinary bushes, which screen them from view. Insecticides can also easily be applied to save the foliage from injury from red spider and caterpillars. With abundance of sun-heat and fresh air, such varieties as White-Smith and Warrington attain to the highest perfection, while the larger exhibition sorts, if liberally fed while swelling, reach a size unobtainable under any other system of culture. While Gooseberries exposed to a maximum of sun-heat are, of course, the best flavoured, the cultivator need not hesitate to plant on fences or form hedges in shady positions, as trees so situated bear freely. J. CRAWFORD.

Apple Beauty of Stoke.—In appearance this somewhat resembles the French Crab, but the fruit is more even in outline and conical in shape. The colour is a deep green, covered with small russety dots on the shaded side, with a flush of red on that exposed to the sun. With me this season the trees have been most prolific, fruit sound, and of first-class quality. As a medium-sized exhibition variety it should stand well, as the flesh is firm and keeps in good condition till late in the season.—H. C. P.

Pear Comte de Lamy.—One would have thought, considering how much good flavour is appreciated now-a-days, that there would have been a stronger competition in the class for this delicious Pear at the Palace show. Probably its size tells against it, but even in this respect it is far more suitable for ordinary dessert than the extra large varieties. Comte de Lamy is a favourite Pear in East Anglia, and I remember a note in its praise from Mr. Temple, of Carron House, but whether he spoke of its merits from the fruit he saw in Suffolk while living there a good many years ago, or whether it succeeds in his present locality, I am unable to say. Perhaps Mr. Temple will kindly say.—J. CRAWFORD.

Mildew on Vines.—Those who are troubled with mildew on their Vines will be glad to hear of a simple and effectual remedy. It was made

known to me by a Grape grower residing on the east coast where the malady is often troublesome through the rapid changes of the wind producing a chill. Previous to pruning, the house is closed, and any plants removed from the range to other quarters. Four ounces of sulphur are then placed on hot coals, this being sufficient for a vinery 30 feet in length. The grower in question has practised it for years, and his Vines have been free from mildew, whereas formerly they suffered much from its ravages. He assured me that this simple remedy does away with the need of sulphide of potassium or any other application the next season.—NORWICH.

Pear Thompson's.—"Hortus" does well to bring the merits of this delicious Pear before the readers of THE GARDEN. Considering its high quality, it is a wonder it is not more frequently met with. Only some six or eight dishes of it were exhibited at the Palace show, these being of no special merit as regards size. Probably the hot, dry autumn is responsible for the small size of the fruit, as no Pear that I am acquainted with changes from a green to a golden colour so suddenly in extra hot seasons. Thompson's is by no means a handsome-looking Pear, the shape being irregular, but its good qualities compensate for this. I think it is quite as highly flavoured as Doyenné du Comice, though perhaps not so prolific. It must not be planted in cold, retentive soils, or small, cracked fruit may be expected.—C.

Strawberry Bickton White Pine.—This Strawberry is not often met with, neither is it often mentioned in the reports of fruit crops. All the same it has considerable merit, and would be appreciated in many gardens if once seen and tasted. It requires good cultivation and then crops well, the fruit being similar in size to well-grown samples of Sir Joseph Paxton. I have known it do well in Kent in a heavy loam, and in one private garden where I was employed it was the owner's favourite Strawberry. Although its colour would probably tell against it as a market variety, it has a very handsome appearance when dished up for dessert. It is always best to give the plants plenty of room, so as to allow of a free circulation of air amongst the plants, as the fruit soon suffers from wet or damp.—NORWICH.

Strawberries Empress of India and Grove End.—Empress of India is one of the best, if not the best, flavoured of all Strawberries. It is not one of the strongest growers, and to get the best results special culture is needed. The best plan is to plant out healthy young layered plants in autumn, and the following spring select some half-dozen of the strongest runners and peg them in at equal distances apart around the parent plant; next year a capital crop of fruit may be expected. The most suitable soil is a good holding loam. A noted fruit grower has pronounced Empress of India of richer flavour than British Queen. This is saying a good deal, but there cannot be any doubt but that it is an excellent Strawberry. Some gardeners still prefer the old small-fruited variety Grove End for preserving, the colour being good. The above method of culture also suits this variety, as it is of rather weakly growth, though abundantly prolific. It is also known by the names of Carolina and Old Scarlet Pine.—C.

Grape Golden Queen.—Reference has often been made to the muddy appearance this Grape takes on just when on the point of ripening. What a pity it has this drawback, which entirely spoils it for market, as, so far as cropping—which is equal to that of the Black Hamburgh—and flavour are concerned, no fault can be found with it. Could but this colour defect be overcome, market growers might plant whole houses of it. One occasionally meets with brightly-coloured examples, the best in this respect I have ever seen having been in a long span-roofed vinery at Sundridge Park. The Vine received abundance of light, sunshine, and fresh air. It was stated by a correspondent some time ago that shading the bunches after colouring commenced would

prevent discoloration of the berries. I have tried this, however, but with no good result. Muddy bunches are also apt to shrivel suddenly later on. Golden Queen has been kept in a plump condition at Chilwell Nurseries, where it was raised, until late in spring.—J. C.

Watering fruit trees.—Various causes have been assigned as to the shortness of fruit this season, but one that I feel confident has a lot to do with it is seldom mentioned. This is the dry, or generally dry, autumn of last year. I have no doubt in my own mind that a dry autumn up to the time the leaf begins to fall is not beneficial, and unless we get heavy rains between the middle of August and the middle of November, trees have not the same chance to finish up the wood properly and develop plenty of good fruit-buds. The buds may be there, but they are not strong enough to ensure fertilisation and a swelling of the fruit. For this reason watering is of the utmost importance, and especially is this necessary when trees are transplanted. The present year has been very dry so far, and trees received from the nurseries have in some cases been quite shrivelled on arrival. All of these—every tree received in fact—have been thoroughly soaked at the roots before untying the bundles by standing them in open tanks and barrels. After planting, each tree has received a thorough soaking, this consolidating the soil, and the growths have plumped up capitably.—H.

Apples which fruit on the points of their shoots.—A good many Apples bear their fruit principally on the points of the shoots, and are, therefore, not suitable for growing as espaliers, pyramids, or cordons. Most of these terminal fruiting varieties are, nevertheless, grown and sold in espalier form, and often prove a source of annoyance by their continued barrenness year after year. One of the most prominent of this class is Irish Peach. I have planted it in espalier form, and owing to its free growth have been able, by rigorously thinning out the growths in summer and leaving the most promising equally distributed all over the tree, these being finally regulated and tied to the wires in winter something after the style of a Peach tree, to secure a lot of good, highly coloured fruit, but for all that the tree never looked well on wires. To spur it in the ordinary way is to court failure. Golden Noble is another Apple which should be avoided in espalier form, though a very prolific variety as a standard or bush. Lady Sudeley is described as a terminal-bearing Apple, which it is if grown in standard or bush form, but, being an exception to the rule, it forms abundance of spurs and fruits freely in cordon form. I fancy The Queen belongs to this section, as I have never induced it to bear as an espalier.—C.

Too many varieties of Apples.—When but recently Mr. G. Bunyard staged at the Westminster Drill Hall 100 assumed distinct varieties of dessert Apples, it was well said that a reduction of that number to twenty varieties only would be a great boon. That the collection included all the leading varieties in cultivation there was no doubt, but nothing would have been lost, and much gained, had the exhibitor kept fifty of the varieties, notably inferior to others, at home and sent but fifty of the best. The work of making a good selection of the very best twenty would then have been much easier. I have thought that some useful purpose might be served by first publishing the names of Mr. Bunyard's 100 varieties, and then inviting a census of opinion from readers as to the best twenty from the entire number. But some of the earliest ripening varieties would still be excluded, which, however, would be of little consequence, as they have very fleeting existences. The selection should be one specially suited to provide a supply for the table from October 1 to March 31. Of course, even with such selection almost unanimously made, nurserymen would still go on growing and cataloguing the inferior varieties, but the publication of the list in the pages of THE GARDEN might help to educate the public so far that infe-

rior varieties be not asked for, and they would then in time die out. Our home-Apple trade suffers severely because of the myriads of worthless Apples we grow so largely all over the kingdom. Really valuable varieties come slowly. None should be included in the list that have not been well tested for at least ten years.—A. D.

DESTROYERS.

THE PEAR MIDGE.

(*DIPLOPSIS PYRIVORA* (RILEY); *CECIDOMYIA NIGRA* (NEIGEN).)

THE Pear midge, according to a leaflet just issued by the Board of Agriculture, sometimes causes serious losses in orchards by its attacks on Pear trees. Some Pear growers seeing the young Pears falling fast in June, when they are about the size of marbles, think that this dropping is due to an unhealthy condition of the tree or to influences of the weather, but it is more often due to the insidious and dangerous action of the tiny Pear midge, the presence of which is far more common than is usually believed.

It would appear that early Pears, and those that blossom early, are most likely to infestation by this insect. Williams' Bon Chrétien is notoriously subject to it, and in America, where the Pear midge is very prevalent and most destructive, the Bartlett Pear (identical with Williams' Bon Chrétien) and the Lawrence are the varieties chiefly attacked. Beurré de l'Assomption is also frequently seriously affected. Pitmaston Duchess, Marie Louise, Jargonelle, Souvenir du Congrès, all early, and like the Bon Chrétien in many respects, are also especially liable to be infested. Infestation has been noticed on later Pears, as Josephine de Malines and Catillac, but in a much less degree than on earlier varieties. Professor Riley, writing in 1885, considered that the insect had been imported from Europe, as until it was found in 1880, upon a certain farm near Meriden, in Connecticut, no insect of similar habits was found in the United States.

It is not known how long the Pear midge has been at work in this country. It was first mentioned twenty-five years ago, and there is every reason to believe that it had been present here long before this, for its action upon Pears, as pointed out above, closely resembles that of weather and other natural causes, and might easily have been mistaken for these, especially as there were then comparatively few trained observers.

LIFE-HISTORY.—The fly is nearly one-tenth of an inch long, with an expanse of wings equal to close upon one-fifth of an inch. Its slender body is dark grey, approaching black, in colour; its antennæ are brown and very long; its legs are also very long and yellowish brown. The female is slightly longer than the male. The number of eggs, according to Schmidberger, varies from a few to more than twenty. They are hatched in a very short time if the weather is warm. Small larvæ, which begin to bore into the blossom usually in or near the stem of the calyx, were found by Schmidberger on the fourth day after the deposition of the eggs. "Before the blossom is expanded they descend to the core, so that they may not be exposed to the sun's rays, which would endanger their existence. They separate at the core and begin to devour it on all sides. When they have consumed the pulp of the small fruit they have attained their full size, and only await a favourable opportunity to leave their still secure dwelling." Sometimes they fall from the Pears to the ground; sometimes they fall

with the infested Pears, from which they emerge and bury themselves in the earth to a depth not exceeding 1 inch. The larva is endowed with powers of jumping like other species of *Diplosis*. It can also crawl well, but it has no legs. It is rather more than a twelfth of an inch long. In colour it is whitish yellow, becoming rather darker as it gets older. It has what is known as the "anchor process" or "breast bone," which serves as an adjunct to the mouth in biting pulp and tissues, "broadly dilated," as remarked by Professor Riley. This is light brown in colour, bifurcate in shape, and is easily seen with an inch lens. It is not known when the pupal state is assumed. It has been ascertained that the larvæ remain for some time in larval condition before commencing their cocoons, and that they remain, according to Riley, in the cocoons for some time before being transformed to pupæ. The pupa is about one-tenth of an inch long, black above and yellowish brown beneath.

PREVENTION AND REMEDIES.—It is absolutely certain that the author of this mischief to the Pear crop is lying just under the Pear trees from June until the end of March, and only about an inch below the surface of the ground. It may therefore be assumed that thoroughly digging the ground beneath the boughs of the Pear tree, making allowance for the skipping or jumping habits of the larvæ as they come from the Pears, will bury the larvæ so that the flies cannot emerge. This should be done as a means of prevention where possible. It would be necessary to dig the ground with digging "spuds" so as to completely turn it over, and the action of winter rains and frosts would pulverise it and make it compact, and thus prevent the flies getting through the clods. Obviously this could not be done in grass orchards. Dr. J. B. Smith, who has closely investigated this subject, says "ploughing an orchard" (and ploughing is a frequent mode of cultivating orchards in America) "infested by the midge, after the middle of June, or, in fact, at any time during the summer, so as to turn the soil at least 4 inches, will probably result in burying beyond resurrection a great proportion of the midges." Ploughing is not carried out in England, but many orchards are dug, and in gardens it would be easy to adopt this practice. Dr. Smith, who has made careful experiments in connection with the Pear midge, has also found that dressings of kainit immediately under infested trees have been most effectual in killing the larvæ. He recommends that the ground under the trees should be top-dressed with one ton of kainit per acre, and mentions an instance of an orchard thus treated, of which the fruit practically escaped infestation, while in an adjoining orchard not treated he failed to find a single fruit that was not infested with larvæ. This treatment has been successfully adopted by several Pear growers. The kainit should be put on between the middle and end of June, before or immediately after rain. It is also suggested that ploughing or digging might advantageously follow towards the end of July or in August. Where Pear trees are in grass orchards the grass should be cut very close before the kainit is put on. It is desirable to apply the kainit before the larvæ get into cocoons, as it has much more effect upon them in their naked state. Rain, or the moisture of the atmosphere, causes the kainit to dissolve slowly, and the caustic solution thus formed burns the tender bodies of the larvæ that are within its influence.

With respect to actual remedies, it must be said that they are few and not satisfactory.

Spraying with insecticides is of no avail. Spraying with offensive materials, as paraffin or carbolic acid, might prevent egg-laying if done just at the right moment. Dr. Lintner suggests sacrificing the Lawrence Pear crop by spraying Lawrence trees with London purple just after the fruit is formed in order to kill midges and starve the larvæ within the Pears. But, unfortunately, other Pear trees are liable to infestation, and in England it would be more difficult to select the trees most subject to this attack for this purpose. Picking off and burning infested fruit can be adopted in the case of small bush, espalier, wall trees, and half standards, but it could not be done on standards. As a rule infested Pears can be recognised by their malformation, so that it would be easy, after the pickers were instructed, to pick them off and leave the sound Pears.

STOVE AND GREENHOUSE.

WATERING PLANTS.

ONE of the most important factors in the successful culture of plants in pots is the judicious use of the watering-pot. It would be difficult to lay down any definite laws on the subject, and still more so to find young men who would carry them out. Watering has to be regulated to a great extent by local circumstances, also by the requirements of the different plants under treatment. It would be quite safe to say that more err in over-watering than in not giving enough. This is particularly the case in regard to Fern culture. It is a common idea that all a Fern requires is to be potted in peat, heavily shaded, and drenched with water, but many of our most tender Ferns may be grown fully exposed to the sun, potted in loam, and kept rather dry than otherwise. It is after reporting that they are most liable to suffer from too much moisture. If the new soil gets soddened before the roots have taken hold of it they will never make a good start, but after the pots are well filled with roots they will take more water, yet either extreme should be avoided even then. With all flowering plants the evil of over-watering is equally apparent. Various subjects, of course, require different treatment, and just at the time they are in full bloom they take up much more water than previously without regard to the pots being fuller of roots than at the earlier period, and many fail to flower satisfactorily if only once allowed to get too dry after the buds are set. I have often heard the cause of Camellia buds dropping being disputed. I believe there are more lost through drought than any other cause, though keeping the house too warm for a few days and then lowering the temperature again will prove equally disastrous. Mignonette is, perhaps, one of the subjects that require the greatest care in watering. I remember once having a splendid batch just coming into flower, and having to be from home, I found on my return that it had been quite withered down, but had just been watered over twice; the result was that it was completely spoiled, the drought having crippled the tender roots, which prevented them taking up the water when it was given. If only a light watering and sprinkling overhead had been given it might have revived, but the over-watering, with roots not in a condition to take it up, was fatal.

Poinsettias and Euphorbia jacquiniæflora are both very liable to lose their roots through either extreme. The result is more frequently seen when the soil is too wet. Yet at the same time it may have been caused through being too

dry in the first place. During the winter, plants standing on a moist bottom will require comparatively little water, while those on a dry stage, especially if there are hot-water pipes beneath, are liable to dry at the bottom while the surface may appear moist; this is more likely to happen where the syringe is used. Speaking of the syringe, it is a splendid instrument when judiciously used, though much mischief often occurs through using it at the wrong time and by not handling it properly. I prefer a syringe with a jet nozzle, and to regulate the force with the finger. With a little practice it is easy to produce the finest spray or give more force as desired, and it can be directed under the foliage better than by a rose nozzle. Red spider would not prove so troublesome if more regard were paid to thoroughly wetting the under side of the foliage of plants subject to this pest.

For syringing, I prefer to have the water as near the temperature of the house as possible, though this is not absolutely necessary, for I have had to use quite cold water for stove plants, and have been unable to detect any evil results. I fully believe it is better to use water below than above the temperature of the house, and for watering I have found that warm water would do harm, but have never proved that cold water was detrimental, though I have never gone to any extreme.

Some years ago I had a discussion with the late Mr. Bause (who was one of the cleverest propagators of his time) on the subject of watering cuttings with cold *versus* hot or warm water, and he was much in favour of cold, and I have followed his advice, and I may add with good results. SUSSEX.

Pentas carnea.—So continuous blooming is this, that with a few plants I have not been without flowers for months, and, favourably situated, they will continue to bloom well on into the new year. The little clusters of blush-tinted blossoms cannot at any time be regarded as showy, yet they are very neat and pretty, and are very useful in a cut state. Where needed only for late autumn and winter blooming, the cuttings should be struck early in the spring and grown on freely during the summer, being stopped occasionally in order to induce a bushy habit of growth. The flowers, too, should be pinched off till required. A form of this usually regarded as a distinct species under the name of *Pentas kermesina* has rather smaller blossoms of a bright carmine-rose tint. It affords a very pleasing variety to the better-known kind, but it is of a weaker constitution and needs more care in its culture. At one time it was freely met with, but of late it appears to have become somewhat scarce.—P. H.

Epiphyllum truncatum Princess.—This extremely pretty form of *Epiphyllum truncatum*, which received a first-class certificate at the Royal Horticultural Society's meeting on November 22, is, apart from its own intrinsic beauty, of considerable interest from the fact that, despite the popularity of the *Epiphyllums* some years ago, only one variety of *E. truncatum* has been previously certificated, and that was as long ago as November 8, 1864. The new form, Princess, is much lighter in colour than the majority of those which we have in cultivation. The flower is white, suffused with purple, which colour is deeper towards the centre than at the edges, while in the throat there is a ring of purple-lake, the long protruding stigma being also tipped with the same colour. Judging by the specimens exhibited, the flowers appear to deepen somewhat in tint with age, as the freshly-expanded blooms were paler in hue than the older ones. *Epiphyllums* of this class are as a rule grafted standard high on the *Pereskia*, with which they readily unite, but such is by no means absolutely necessary for their increase, as cuttings strike readily, and

when they are grown in suspended baskets this is the best way of propagating them. As bushy plants in pots they are, owing to their pendulous nature, seen to better advantage when grown as standards. The plants shown were grafted on to thick, fleshy stems, probably some kind of *Cercus*.—H. P.

Bouvardia leiantha.—For size of flower this species cannot compare with many of the popular kinds, but it is a useful and pretty plant that is deserving of attention where a quantity of cut flowers is needed. The pretty little corymbs of scarlet blossoms are especially bright and telling just now, and its colour is quite distinct from that of any other. It is easily grown into neat bushes by keeping the plants sturdy in the early stages and pinching frequently. It is very free flowering; so much so, that occasionally it is necessary to pinch out the blooms as soon as they show, or but little growth would be made. Cuttings taken in early spring make nice little plants the first season, but they are better the second, and if arranged alongside one of the long-tubed white varieties, as *B. jasminoides* or *B. Humboldti corymbiflora*, it has a fine effect in the conservatory or greenhouse. A frequent mistake in *Bouvardia* culture is coddling the plants, especially in the earlier stages, this leading to weak, attenuated growth that is not likely to flower freely, if at all. If grown in pots, *B. leiantha* must be stood in a frame or plant protector during the summer and syringed freely morning and evening. This serves to keep down green-fly, this insect being especially attentive to *Bouvardias*, or the plants may be placed in frames in a peaty compost, made quite firm, and lifted and potted in autumn for flowering.

COSTUS IGNEUS.

ONE of the brightest features just now in the stoves at Kew is this *Costus*, referred to in a recent issue, which is so attractive that its comparative scarceness is not at all easy to account for. It is one of the numerous family of Gingerworts, many of which are remarkable for their showy blossoms, though in some cases they do not last long. This species is no exception to the rule, but as a set-off a succession is kept up for a considerable time; indeed, so free-flowering is it, that a few well-established specimens will bloom more or less continuously throughout the year. *Costus igneus* forms a dense leafy clump, while the blossoms are borne in cone-like heads on the points of the shoots. They are a couple of inches, or nearly so, in diameter and of an intense deep orange colour. Though the flowers are thin in texture and do not last long, several are pushed out from the same head. This species is a native of Bahia, and was introduced by M. Linden in 1882. Its cultural requirements are not at all exacting, as it can be readily grown in pots in the stove, while if planted out it is, as a rule, even more satisfactory. The specimen referred to at Kew is planted at one end of the new *Nepenthes* house, and its numerous brilliantly-tinted blossoms were particularly striking on a dull November day. It furnished a good illustration of the now generally recognised fact that yellow flowers are more conspicuous during extremely dull weather than those of any other tint. This *Costus*, like the rest of its race, can be readily increased by division, which is best carried out in the spring. There are several other species, but this is the most brilliantly tinted of any that I am acquainted with. A second kind, *C. speciosus*, was illustrated by means of a coloured plate in THE GARDEN, March 9, 1895. In this the delicate white blossoms are pushed out from a peculiar red cone-like arrangement with which the principal shoots are terminated. This is altogether a stronger-growing plant than the preceding, reaching as it does a height of 4 feet to 5 feet. It is a native of India, and occurs plentifully in some districts in disused watercourses and such spots. Though uncommon here, it was introduced as long ago as 1799. T.

FERNS.

THE BLADDER FERNS.

(CYSTOPTERIS.)

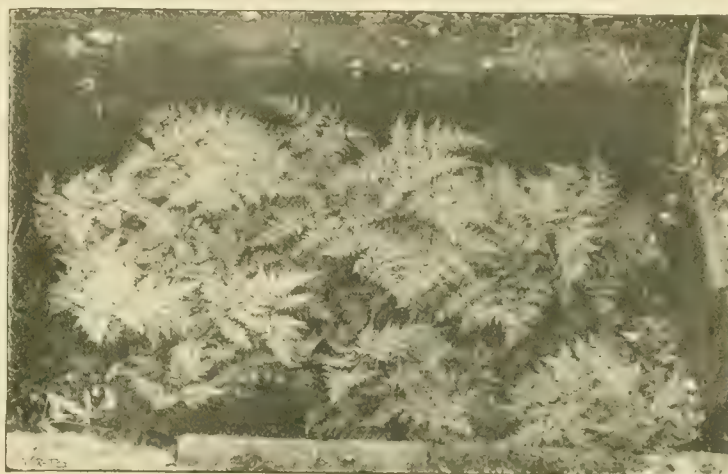
With the exception of the North American *Cystopteris bulbifera*, all Bladder Ferns, so named in allusion to the nature of the covering of each spore mass being inflated like a bladder, may reasonably be considered as British plants, although most of them also exist in a wild state in various mountainous parts of Europe. Indeed, they are found to inhabit the temperate zone of both hemispheres. The genus only contains four species, viz.: *C. alpina*, a very pretty Fern seldom exceeding 8 inches in height; *C. bulbifera*, the fronds of which usually measure from 12 inches to 18 inches in length, but are occasionally longer; *C. fragilis* and its several varieties, viz., *angustata*, with fronds 15 inches long, *dentata* and *Dickieana*, which seldom grow more than 5 inches high, and several other intermediate forms; and last, but certainly not least, the very beautiful *C. montana*. An idea of the elegance and graceful habit of this species may be readily formed from the illustration by those who are not acquainted with the plant.

It is, indeed, the privilege of but very few Fern lovers to see, and of a still more restricted number to possess, *C. montana* in all its glory, for it bears the reputation of being a bad, or at least a very capricious grower. For many years its culture has been considered very difficult, but when one sees such specimens as the one here reproduced from a photograph taken and kindly lent by its grower, one feels anxious to be favoured with the mode of growing which produces such wonderful results. This is as simple as it is effective, and we owe the history of the discovery of the new treatment to the kindness of Mr. O. Firth, of Baildon, Yorkshire. This gentleman, who is a very keen observer and who has had remarkable success with this plant, adopted the culture which, to him, appeared the most rational after a careful examination of the rhizomes and of the roots of his plants, which previously would grow no better with him than with other growers. Mr. Firth, having found that his plants, although producing no top growth worth mentioning and gradually dwindling away, had a peculiar way of extending their tiny rhizomes until they reached the drainage of the pans, when they became more substantial, hit upon the idea of excavating a pit and filling it to the depth of 12 inches with coarse and small brick rubble and only a very little loam and leaf-mould, into which the rhizomes were planted and buried over. This was in the month of October, when one good substantial watering was given to settle the compost, and no more attention was paid to the new plantation. The following year the plants surprised their owner by their improved condition, and the following season, and without anything further than ordinary watering having been done to them, they astonished all who had the good fortune to see them. I have now in my possession a frond measuring 18 inches high and 10 inches across at the base of its leafy portion, and this is by no means an exception, as those lovely fronds of a beautiful light green colour are produced in great abundance and from rhizomes which are fully the size of an ordinary lead pencil.

All other known *Cystopteris* produce their fronds from a tufted crown, and are propagated by the division of the crowns or from spores sown in autumn in a cold frame. *C. bulbifera*, however, is more readily increased by means of

the little bulbils, which are abundantly produced, and which are usually found on the under side of the fronds, mostly at the base of the leaflets. These singular growths consist of two, sometimes three, and even four rounded, fleshy, cotyledon-like greenish or deep-coloured masses containing a rudimentary frond or two between their bases. Having fallen to the ground, they soon emit a few slender roots and produce perfectly developed plants during the second year. *C. montana* is the only known species provided with running rhizomes, a character which renders its propagation easy when the plants grow freely, as they do with Mr. O. Firth at Baildon. Its discovery in Great Britain is of comparatively recent date, for although it had long been known as a Fern peculiar to the high alpine districts of Europe—the Jura and Dauphiné Mountains, the Swiss and Austrian Alps, and the Pyrenees—it was only in 1836 that Mr. W. Wilson found it on Ben Lawers. So interesting is the history of the Mountain Bladder Fern, that the observations made by the late Thomas Moore are well worthy of being reproduced here:—

The headquarters in Britain of this very rare and local Fern are the Highlands of Scotland, where it grows on mica schist, and where it was first found on Ben Lawers by Mr. W. Wilson, in



Cystopteris montana. From a photograph sent by Mr. O. Firth, Hawthorne House, Baildon, Yorks.

company with Professors Hooker and Graham, in 1836, and subsequently by Messrs. Gourlie, Adamson, Borrer, and Little, and Dr. Walter Arnott, in 1841, 1850, and 1851, in a ravine called Corrach Dh'Uifillach, or Corrach Uachdar, between Glen Dochart and Glen Lochay, in the Mhiel Oufillach Mountains, in Perthshire. It is reported to have also been found in North Wales by Plukenet, and we are informed that the existence of the species in Wales has been recently confirmed, though the information is incomplete. It is not, however, improbable, as the species is met with in the Alps of Europe, occurring most frequently in the north, and generally on rough, stony ground. This is strictly an alpine plant, and requires treatment similar to that recommended for other species, with perfect rest in winter.

Eaton, in his splendid work, "Ferns of North America," says that it is one of the rarest of North American Ferns, and states that it is found growing by the side of streams in shady alpine woods in the Rocky Mountains of British America and on the north shore of Lake Superior, and it may be added that it is generally in similar situations that it is also found in Central Europe. S. G.

ORCHIDS.

MORMODES.

It is difficult to say why these Orchids are not more popular, for they are extremely interesting and beautiful, never failing to flower if properly grown, while their requirements call for no very special skill. It is true that a certain amount of care is needed, especially early in the season when the young growths are starting, and an over-dose of moisture is apt to lead to mischief, but this may be said with equal truth of many other popular kinds. The plants are closely allied to *Catasetum*, and they resemble each other in the quaint forms of the flowers and the manner of fertilisation. They are mostly deciduous, having scaly pseudo-bulbs and deep green foliage of rather a thin, yet tough texture. The best place to grow them is in the warmest part of the Cattleya house, where they will have abundance of light the year through, or they may, if more convenient, be placed in the warmest house while growth is active, and removed later when it is finished to a cooler and drier position. In a collection of these plants there will be some individual specimens that carry their foliage much later than others, and

it is better not to try and bring them in a line, as they flower over a longer season. The first part of the season, as noted above, is when the plants need most care in watering, and the less they get the better, for stored up in the large fleshy pseudo-bulb is ample nutriment for the young growths. Again, a little later when the top of the growth forms a cup-like cavity that will hold water, all overhead watering should be given up and the atmosphere kept moist by other means. Although the foliage of these Orchids is of a kind that likes ample sunlight,

it will be found to scorch easily if at all wet from night moisture when the sun reaches it. This makes early morning ventilation necessary, and not only this, the air so provided helps to harden and ripen the pseudo-bulbs. As the season goes on the foliage hardens and will stand almost direct sunshine, and soon after the top leaf has attained its full size and the pseudo-bulb has done swelling, the water supply must again be diminished by degrees, as the foliage loses colour and falls. Those plants having flower-spikes in course of formation need a little more moisture than others. The size of pot or basket used for the plants will depend on the habit of the species to some extent. The luxatum and pardinum varieties, being of average size, may have about a couple of inches margin all round the plant, with less or more according as the species is strong or weak. Many growers use baskets for them, and very pretty the arching flower-spikes look when suspended.

A fair percentage of sound fibrous loam is an excellent addition to the compost for these

plants, and the peat and Moss should also be of the best quality. Repotting or rebasketing is best carried out in early spring, and if a little top-dressing is allowed in the intervening seasons, once in two or three years is often enough. The leaves of *Mormodes* are very liable to be attacked by red spider, thrips and other insects, the old leaf bases that cling round the pseudo-bulbs after the foliage has fallen making comfortable winter quarters for them, whence they issue to the young leaves and soon spoil their appearance. The sheaths must not be removed, but a good deal may be done by careful and continuous cleaning and sponging, besides keeping the atmosphere of the house genial and moist.

MORMODES BUCCINATOR is one of the handsomest and most remarkable in the genus, a very variable plant as regards colour, some varieties being extremely bright and showy, others poor. What is usually regarded as the type has yellowish green sepals and petals, with a white lip; in others this ground is very beautifully mottled and spotted with various shades of rose and purple. The habit is not so large as in some, the spikes are erect and usually produced in late summer and autumn. It has been in cultivation since 1840.

M. CARTONI was introduced soon after the above-mentioned kind, having been sent to Kew by Mr. C. Purdie in 1842. It closely resembles some of the forms of *M. Buccinator*, and forms of it have been recently exhibited under the latter name. The pseudo-bulbs are longer, as is the foliage, and the flowers are much smaller than those of the above. The sepals and petals are yellowish, spotted variously with red and purple. It first flowered at Syon House a few years after its introduction.

M. COLOSSUS is a large growing handsome species, reaching a height of about 2 feet and bearing large, striking, though not pretty flowers, each about 5 inches across. The sepals are yellowish, tinted brick-red at the base, and the thick column a deep green. In my notes on this species made some years ago I have it as a very strongly-scented Orchid, but I have not seen either plant or flower for a long time. It comes from Central America and was one of the discoveries of the Polish collector Warszewicz.

M. LUXATUM is not itself particularly handsome, though the yellowish tint is somewhat unusual, but its variety *eburneum* is one of the very best of all. Its flowers are pure white, with the exception of a slight tinge of brownish red upon the lip. Another variety has prettily spotted flowers and the ground varying from pure white to pale yellow. It is a native of Mexico and was discovered by a collector in the employ of Mr. G. Barker, of Birmingham, in 1839.

M. OCANE is an old species, discovered many years ago by Schlim near Ocana, and probably not introduced alive. In 1879 it flowered with Messrs. Veitch and Sons, the plants having been sent home by their collectors. The colour of the flower is yellow, but so closely covered with reddish brown spots as to almost appear wholly of that colour.

M. PARDINUM is one of the best known and a fine Orchid, flowering freely at almost any time of the year. The spikes are prettily arched and thickly set with golden yellow flowers, these being spotted with reddish brown or chocolate. The variety *unicolor* is of a soft pale yellow, without spots of any kind. The plant was introduced in 1837, and it flowered soon after with Mr. Bateman, of Knypersley. It has been frequently imported since and is a native of Mexico. Many other kinds more or less distinct have been named at one time and another, including the deep claret-coloured *M. ænanthum*, exhibited by Sir Trevor Lawrence at the Drill Hall last April, but some, such as *M. igneum* and *M. uncia*, are doubtfully distinct, while others are very rare if not now misrepresented in collections.

Cypripedium Niobe.—This is a very lovely little hybrid, raised in the first place by Mr.

Seden, and since then in a few other collections. It is about 3 inches across; the dorsal sepal is white flushed with rose, and has a bright green patch at the base like *C. Spicerianum*, one of its parents. Its other parent is *C. Fairieianum*, and, like the majority of hybrids raised from this rare kind, it has the same pretty drooping and recurving petals. The colour is a soft, yet bright green overlaid with chestnut and brown markings, the green, rose and brown lip making up a truly beautiful flower.

Sobralia macrantha alba.—This has turned up in several collections recently, and a lovely flower it is. Its correct name is *S. m. Kienastiana*, but *alba* is simpler and is more often used. Compared with the type it is not nearly so tall, but flowers with the same freedom if properly grown. Doubtless these plants are in some cases overdone with compost and water, but much oftener they are half starved from want of room in the pots, and need material for the large fleshy roots. A fair proportion of good sound loam should be mixed with peat and chopped Moss for these plants, and the pots should be fairly large and well drained.

Phalænopsis Lowi.—One of the prettiest of the dwarf Moth Orchids, this is also one of the worst to grow. Its native habitat is in Moulmein, where it loses its leaves after flowering and rests entirely for a few months. If under cultivation it were safe to dry the plants sufficiently to give them this thorough rest, and at the same time to prevent loss of energy, they would doubtless be more generally satisfactory, but in many instances the resting season is when they go wrong. Plants that produced nice stout little leaves one year gradually dwindle away and become too weak to flower, and, owing to this, many growers are in the habit of only partially resting it. The plants vary a good deal, for in some instances it would seem impossible to prevent the loss of foliage, and such are, perhaps, the most generally satisfactory. Give just enough moisture about them in winter to keep the roots plump, and in spring, when the foliage appears, grow them as strongly and rapidly as possible. In no case is much compost necessary, a little Moss about a block or basket being all that is required. The flowers occur on semi-erect spikes about a foot high, and are each a couple of inches across, rosy white, with a suffusion of rich purple about the base of the petals and the lip. It was introduced by Messrs. Hugh Low and Co. in 1862, having been discovered and sent home by the late Rev. C. S. Parish.

DENDROBIUMS.

WHERE a house is set apart for *Dendrobiums* only, it will not be very gay just now, but to the cultivator who studies his plants it is none the less interesting. Nearly all the fine deciduous kinds that give us such lovely blossoms during the spring and early summer months are simply a number of dry, woody-looking stems and cannot by any means be called ornamental. Now they are quite at rest is a capital time to look over the stock and give a thorough cleansing, taking out any old worn-out stems and renewing stakes, ties, and labels. Of course, in this I am speaking of the majority, for some at least of the deciduous and semi-deciduous kinds will be advancing rapidly for flower, others will be in blossom, and a few perhaps may be over. The grand old *D. nobile*, for instance, is one that in the same collection may be had in flower for many months if plenty of plants of it is grown and brought along in suitable batches as required. I have on several occasions seen chance bits at *Chrysanthemum* shows during November, and fine plants often at Christmas. To get them thus early it is necessary that one set of plants be kept for the purpose and grown on as rapidly as possible in the early part of the year, so that by midsummer

or a little later the stems will be finished and the plants placed in a sunny vinery or outside to ripen. But as often as not it is stems two years old that produce these early flowers, in which case the younger ones will not be required, but will keep dormant and bloom the ensuing year. So far as I have noted, the variety has little to do with its flowering early or late, excepting in the case of one or two well-known long-stemmed varieties that are usually later than the majority. A well-known instance is *D. n. Wallichianum*, which may be had quite late in summer.

D. chrysanthum and *D. heterocarpum* are two pretty species that often flower together at this time of year, but they are totally distinct in their manner of cultivation. Both are strictly deciduous, but the former will often flower upon the young growth while the foliage is still fresh, and in any case before resting, while the latter should be well ripened and take a good rest before flowering. Both often grow away in winter, and are, therefore, among the earliest to go back to the growing quarters if removed therefrom to rest. The longer, in reason, these and the long-stemmed *D. Pierardi*, the allied *D. cucullatum*, *D. Devonianum*, and *D. Boxalli* rest, the better, and the same may be said of the beautiful *D. crassinode*, *D. Wardianum*, and many others. From the time the last leaf falls until the plants are again on the move none of these species will require a drop of water provided the growth has been well ripened. But of course there are seasons when it is almost impossible to get them really hard and ripe, and it is at such times that a little moisture at the roots is helpful, preventing shrivelling and subsequent weak growth. The autumn just passed has been all that could be desired in this respect, and my plants of the above-mentioned kinds, also the somewhat erratic and late-growing *D. superbum*, have not had a drop of water for the past six weeks. Plants that often need a little humoring in this respect are the strong-growing kinds of a deciduous habit but that yet carry their foliage through the winter in the majority of seasons. *D. Dalhousianum* and *D. moschatum* are well-known instances. They may be described as evergreen under cultivation, but possibly lose their leaves in a wild state.

The true evergreen species, with club-shaped bulbs and leaves principally at the top, are better for not being kept too dry or too cool during the time that growth is inactive. In fact, were they kept moist only when growth was going on, this would be but a very small part of the year, for many of them will start and finish their growth in about six weeks. They require in fact more regular treatment throughout the year than those above mentioned, and are frequently kept too hot in summer and too cold in winter. It is the same with the lovely *D. infundibulum*—grown in strong heat and rested afterwards. By withholding all moisture it is never really satisfactory, but grow it in an intermediate house the whole year and endeavour to keep it dormant until the sun has sufficient power to ensure solid growth, and it will go on and improve for many years. Its near relation, *D. formosum*, likes more heat while growing, and if this happens to be during winter, the plants must be kept in the fullest light possible. They are always most satisfactory when given an annual routine of growth and rest, and when once a grower gets his plants into this condition, *D. formosum* will improve under cultivation without a doubt. The well-known *D. Phalænopsis* and other lovely kinds from the Australian continent and adjacent islands are

all the better for being kept close up to the glass now that the growths are steady and the flowers either forming or in full beauty. Here, again, the same caution as to rest is necessary. Never distress the plants by withholding water too long, as this only starves the last-made bulbs, rendering it very unlikely that they will ever flower again, and making the resulting shoots weak and easily injured.

H. R.

Epidendrum Brassavolæ.—Of this I have noted a fine plant, and though not a popular species it well repays the little trouble needed in its culture. The flowers appear upon a terminal spike at the apex of the flask-shaped bulbs, and in shape and colour are very distinct. The sepals and petals are yellowish, the lip variable in colour, the usual tint being a purplish rose in front, the base white or orange-yellow. This organ is trowel-shaped, and by it the species may be recognised. The plants do best in an intermediate house in a rough open compost, and must be placed in rather large pots. It is not very constant in its habits, but may usually be induced to rest for a few months during the winter.—H.

Lycaste Skinneri rosea.—This pretty variety is now in flower and delicately beautiful in its soft rosy markings, which are intensified about the lip. If this good old species was rare it would be very much run after, for it is one of the finest of cool house Orchids, yet one of the most easily grown. As it is, the plant is almost neglected and one seldom sees it well cultivated. It pays well for liberal treatment, giving it a good substantial compost of light loam, peat, and a little Moss, abundance of water while growing, and a cool, moist atmosphere the whole year round. Then flowers of great substance and in plenty are produced, far different from those on half-starved examples.

Lælio-Cattleya Statteriana.—The parentage of this pretty hybrid is *Cattleya labiata* and *Lælia Perrini*, and though it favours the latter kind most, it is a great improvement on it, the flowers not having that flat, stiff appearance characteristic of the *Lælia*. The colour of the sepals and petals is a soft rosy magenta, the lip bright purple, with a very distinct white throat, which brightens up the flower considerably. With hybrids of this kind—that is, those the result of crossing species a good deal alike in habit and manner of flowering—there is little or no difficulty as to treatment, and the hybrid in question is as easy to grow as either of the species. The growth should be induced to come away vigorously in spring and to flower on the young bulb. Then a few weeks of entire rest suits them best, during which time the plants will be kept in the usual *Cattleya* house temperature and given suffice moisture to prevent shrivelling. *L. Statteriana* was raised about five years ago in Messrs. Veitch's nursery.

Odontoglossum Hunnewellianum.—This is an extremely pretty little species, with the habit of a small *O. crispum* and neat arching spikes containing upwards of a dozen medium-sized flowers. They vary a little in colouring, the spots being usually thickly disposed on the segments, which are whitish or yellow in ground colour. The plant is a native of Bogota and is found at considerable elevation, so under cultivation it will thrive with *O. crispum* and similar kinds. The plant flowers at various times in the year, sometimes in spring and again in autumn, and appears to be of the easiest culture. Until well established, the compost should be extremely thin and consist largely of pure Sphagnum Moss, a little peat being mixed with this when the roots are beginning to get well through to the drainage. The best position for all these dwarf growers is undoubtedly one as close to the roof glass as possible, and to avoid any danger of waterlogging, let the pots or pans be as small as possible and thoroughly drained. At no time in the year should the plants be dried off at the roots, only a

diminished supply being given during the dull months, when evaporation is not so rapid as in the summer. *O. Hunnewellianum* is said to have first flowered in Mr. Thompson's collection at Walton Grange about ten years ago.

TREES AND SHRUBS.

AZALEA INDICA ALBA.

THE illustration shows part of a plant of *Azalea indica alba* which is covered with a mass of bloom every year. It measures 12 feet wide, 5 feet high, and is growing in a sheltered position in the flower garden. It has been planted about fourteen years and has not had any protection, although we have had more than 20° of frost on several occasions.

T. T.

Creech Grange, Wareham.

The blue Hydrangea.—In common with a good many more growers, I have endeavoured at different times to produce the blue flowers in this by means of various kinds of chemicals, applied both in a solid and liquid form, with varying



Part of an *Azalea indica alba* growing in the open in the gardens at Creech Grange, Wareham. From a photograph sent by Mr. Thomas Tyler.

success, but at the best the colour was a very washed-out one, and not to be compared with the beautiful deep blue tint that one occasionally sees produced by plants which receive no extraneous aid whatever. In the village here there is a fine bush growing by the back door of a cottage and facing due east which produces a great wealth of blossom each year, the colour being a beautiful deep blue. I have known this bush for the past thirty years, and have never known the colour to vary in the slightest degree. The compost in which it is growing is ordinary garden soil, which is rather shallow and overlying a bed of limestone, the latter dipping towards the north. There is nothing whatever in the soil to judge by appearances to cause the flowers to come of such a beautiful blue colour, neither does the plant receive any assistance whatever in the shape of manure either liquid or solid. I have had cuttings from this bush on several occasions, but the plants when they flowered have always been of the ordinary pink colour. This, of course, proves that there is something in the soil where the bush is growing to bring about such a change,

and nothing but an analysis of a sample would reveal what that constituent is. I shall certainly try the compost recommended by E. Bar (see *THE GARDEN* for December 3, p. 457), as it has the merit of being extremely simple and inexpensive, and it will be interesting to watch results. Perhaps some other readers of *THE GARDEN* will also be induced to give it a trial after perusing the note alluded to and report thereon in due course.—A. W.

Skimmias.—When the dull weather usually associated with the end of autumn sets in, one has to search for the brightest outdoor features among the berried trees and shrubs of which our own native Holly furnishes such a well-known and popular example. The brightly-coloured berries of the Skimmias, too, are greatly admired. Being evergreen, Skimmias are largely used, particularly since the improved forms have become generally cultivated. All the Skimmias are very beautiful, but the finest of all is that known as *Foremani* (a garden form), which first had public attention directed to it ten years ago, when it was shown in grand condition and received a first-class certificate at the December meeting of the Royal Horticultural Society. The berries of this are borne in great profusion, are very brightly coloured, and remain in good condition a long time. The habit of the plant is free, yet compact, while the foliage is all that can be desired. Skimmias are largely used in London for furnishing window boxes, balconies, and similar purposes, and, provided reasonable attention is given them, they are less affected by the smoke-laden atmosphere than many other evergreens.—T.

OUR WOODLAND WALKS.

As one rambles through the woods during the autumn it is impossible not to be attracted by the varied hues and forms of the fading leaves of our forest trees and the underwood, particularly in districts where the *Viburnum*, *Cornus*, and *Rhamnus* abound, and where the wild Cherry and Crab are plentiful and the peculiar berries of *Euonymus* hang from their slender stalks. But none of these are to be compared with the foliage of some of the trees and shrubs brought from other lands. The scarlet Oak, for example, which usually retains its leaves long after most of the other forest trees are bare, with its large bright foliage is very conspicuous. The leaves of many of the Maples, together with those of the *Liquidambar*, also tend to brighten the scene. No one can help admiring the stately trunks of trees either when standing alone or in groups; but, unfortunately, it sometimes happens that those whose duty it is to look after these set no store by the venerable trunks. They have but one aim in view, and that the commercial one. The stately trunks to them mean so much money: therefore the woodman is set to work, and down come the trees that have been so much admired for generations. The Oak, the Pine, the Beech, and Ash are all sacrificed to the woodman's axe. Such care nothing for their worth as noble adornments to the domain or for the beauty of their foliage and flowers. True, there are some places where noble trees are still admired. Still, it does not appear there is that interest taken in the planting of ornamental trees and shrubs in many places one would expect. There are many bare places that might be turned to good account if those in charge did but understand the work. The small belt required for ornamental shrubs alongside the carriage drives, by the edges of

streams that in some places flow through the woods, or by the paths would not take up much room, but, if judiciously planted, might prove a source of enjoyment and pleasure to their owners and friends. There is no necessity for keeping these woodland walks in that prim order one is accustomed to see in grounds in close proximity to the mansion. What is needed is to open up interesting vistas, giving more prominence to extra fine trees; not by lopping off branches indiscriminately, but by a judicious thinning out where needed. It is not the size of a place, but the manner in which it is laid out that gives the greatest pleasure. There are many places where much might be done at little cost to effect great improvements, and what are now bare, unsightly spots might be turned into interesting sheltered nooks where many choice plants and trees could be planted.

B. P. S.

AUTUMN FLOWERS AND FOLIAGE.

THE mild weather in October and during the greater part of November has again forcibly brought to our notice the value of late-flowering plants, both shrubby and herbaceous, also the glorious effect that may be produced by a judicious selection of deciduous trees and shrubs for planting alongside woodland walks and in places where their varied autumn tints can be seen to advantage. Of flowers there has been no lack this autumn, for in sheltered situations the Dahlias were not cut down until the latter part of November, and Tea Roses have seldom been seen in such profusion so late in the year, as until the night of November 22 fine fresh blooms were gathered in abundance from bushes growing in the open. Since then we have had exceptionally severe and rough weather, as many as 14° of frost being registered, which have quite put an end to their beauty. Some plants of *Cassia corymbosa* were flowering most profusely in a sheltered situation until the date above-named, the clear yellow flowers showing up wonderfully above the bright green foliage. We too seldom see this plant well grown, and no idea can be had of its beauty from small plants in pots. When planted out in the open in beds of rich soil and allowed to ramble, strong growths are made, which produce an abundance of bloom on their terminals late in the season. This plant is not hardy, but may be planted out in summer with other half-hardy shrubs, when it will well repay anyone for the little trouble required to protect it during the winter. A good companion is the old *Erythrina crista-galli*, though flowering somewhat earlier in the season. *E. laurifolia* and some others of the same genus also do well out of doors in the summer when liberally treated and afforded protection during the winter months. *Aloysia citrodora* is usually to be seen treated as a greenhouse plant, but this, too, makes a charming subject for summer bedding or for planting in clumps in the wild garden, as its shoots when liberally treated will grow from 6 feet to 7 feet long in one season. Where room can be afforded in a cold frame the plants may be taken up when cut down by frost and stored away for the winter. In spring they should be cut down to within 6 inches of the previous year's shoots and started in a gentle heat, when they will make fine plants for putting out in June. As the points of the young shoots root so readily in heat, it is not necessary to keep the plants longer than one year, for if cuttings are rooted early the plants will be sufficiently advanced in growth for planting out as soon as all danger of frost is over. Swainsonias make grand subjects for planting out in sunny positions, as in such they flower till quite late in the season. They are easily propagated either by seed or cuttings. *Desfontainia spinosa* is another grand old plant that produces an abundance of bloom in the autumn and early winter months. In some sheltered places this will withstand the rigour of our winters; it is, however, better to protect it in a cool house. Abutilons of various kinds are also fine autumnal flowering plants when given liberal treatment

during the summer, and as they will stand such rough usage in winter by being stored away in a cold frame are most accommodating.

We are apt to pay too much attention to tender, soft-wooded plants that are cut down by the first severe frost instead of looking more to those which, though not quite so showy in the early part of the season, do much to enliven our gardens during the latter months. There are many plants too that might be grown for the beauty of their foliage alone, to say nothing of the wealth of flowers that some of them give us. The leaves of the purple Vine, for example, hanging to their slender stems have been beautiful this autumn; so have the leaves of the scarlet Oak, some of the Maples, Barberries, and Andromedas. We are too apt to think only of the summer adornment of our gardens, leaving them by far too much alone in autumn and winter, but there are many interesting hardy plants suitable for planting alongside shrubby paths and wilderness walks which, though not producing brilliantly coloured flowers, are, nevertheless, attractive during the dull winter months by their peculiar habit of growth and varied forms of bark, and even in some by their singular foliage, which clings to them until the young leaves displace them in spring.

H. C. P.

Raphiolepis salicifolia.—For covering a wall in a somewhat sheltered position this pretty Chinese shrub appears well suited, being neat in habit and producing rather freely its small panicles of white flowers. A position sufficiently favoured to suit such things as *Ceanothus* would probably answer for this plant.—E. J.

Vitis heterophylla humulifolia.—The issue of THE GARDEN for November 26 was especially interesting to me owing to the several references to Vitis it contained. The illustrations make one long to be placing poles and planting Vines to cover them in every direction. But what I wish to refer to is the above Vine. Some years ago I received a small plant of it together with a bunch of fruit from the Rev. H. Ewbank. In due time I planted it in good soil in a warm corner, sheltered from east and north—in fact, one of the warmest corners I could find here. From some reason I am unable to explain it never began to grow until the past summer, when, to my delight, it started very early in the season, making several growths each varying from 10 feet to 12 feet in length. On the top of the wall against which it is planted is a wooden trellis, the top of which it has reached. I fear in the event of severe weather all this growth will perish, and that in consequence I shall not see it fruit next summer. With regard to the remarks Mr. Bean has made re *Vitis Coignetiae*, I trust that it will not continue to behave as it has for the past three years here, viz., keep perfectly green until the leaves fall in autumn. I cannot complain of the amount of growth it has made. This is quite satisfactory, and applies to half a dozen plants. Some of the cut-leaved varieties are delightful, and should be planted more extensively on old tree trunks, up poles, and such like places. I was lately reading a glowing account of *Vitis inconstans*, and determined to order one for a particular place on the house here. I searched several catalogues, and should certainly have remained in ignorance of the plant referred to had I not noticed Mr. Bean's reference to it.—A.

Ever since the name was altered we have, when writing of *Ampelopsis Veitchii*, used the new name *Vitis inconstans*.—Ed.

Outdoor labels.—The following system I have adopted for some years with perfect success: I get zinc cut into the sizes required and clean them with fine emery paper, rub smooth with a leather, and write on them with the indelible ink somewhat thickly. When perfectly dry I give the labels a coating of carriage varnish. The weather never injures the writing, and I have seen some thus treated which have been used for

eighteen years, and as clear as the day they were first written.—M.

KITCHEN GARDEN.

FORCING POTATOES.

POTATOES are always appreciated when forced, though hard forcing affects the quality, and it is to this point I would call attention. There are matters equally important, and one is that the top-growth must not be too much in advance of the roots. This is caused by hard forcing, and the crop grown thus at times does not pay for space occupied. For supplies in the early part of April now is a good time to make a start, and it is surprising how well the Potato can be grown in pots if the latter are not too much crowded with sets at the start. I have, to get an extra supply, found growing in pots most useful, as the pots give little trouble. Tubers potted now and placed in a forcing house—or what is better, the front part of a fruit house started some weeks ago—will give an earlier crop than the frame roots. Size of pot is not important. I prefer 10-inch or 12-inch pots, as this is a useful size, and it is an easy matter to move them from one house or frame to another. I am aware many use much larger pots, but they have to remain in one place, and if very small ones are used the soil soon dries up when there is a good top-growth, so that anything smaller than 8-inch pots I do not advise. Many growers prefer to get the sets sprouted previous to planting, and it is well to do so, but not too much, as if the sets have made roots there is no gain whatever, as they suffer badly when shifted from the boxes where started and transferred to pots. I have noticed when too much advanced they make one fair-sized tuber and the others are too small. They may be started say a fortnight or three weeks in advance of potting up or placing in frames. The shorter period is quite enough if the seed was well prepared for forcing by exposure after lifting. For seed from a clump a longer period would be needed to start the sets. Another point worth attention is the variety forced. There are now some excellent kinds, and these I prefer to the old Ashleaf type, as they give a heavier crop and force quite as readily. One I grew largely last season was Ninety-fold. This is a splendid kidney, having a strong but dwarf haulm, and the quality is equal to that of the best of the Ashleafs, the flesh white, floury, dry, and of delicate flavour. English Beauty is also a favourite with me for pots and frames. This is a heavy cropper and of good quality. In this there is a good deal of the Beauty of Hebron, and it is one of the best croppers I have grown. This variety has been a success in other gardens, as some good accounts of it have appeared in THE GARDEN. Many prefer the Ashleaf kinds on account of their short top and distinct flavour. They have no equal in the latter respect, but at times the crop is not so large as one could wish. For years I grew Sharpe's Victor, but now rely on the two kinds mentioned above.

When grown in pots the sets need a good soil. If heavy, I mix burnt wood ashes or spent Mushroom manure with a portion of bone-meal, and make the soil firm when potting. If too light, the plants make a poor root growth. I advise filling up the pots at the start, as there is no gain whatever in heavy top-dressings. I find the best food is that in a liquid state or in the shape of a fertiliser. Growth is too rapid to benefit by top-dressing, and often the new soil added keeps the lower soil dry. The

varieties named if potted up in the early part of January will be fit for use in thirteen weeks if the sprouts are about half an inch long when potted. I always endeavour to keep the tops dwarf. This is a necessity, as a drawn top will mean a poor crop. The plants must be near the light, and be given plenty of air in fine weather. In frames much the same advice applies. Three or four sets in a 10-inch or 12-inch pot are ample. A better crop for first supplies from frames will be obtained with bottom-heat, but the warmth must be moderate. Many crops are poor in consequence of too much warmth at the start. I never like to hurry the growth. I find fresh-gathered leaves excellent material for bottom-heat, and, if needed, manure may be added, but it is far better to give a little more time and force slowly than to force hard. Many are independent of heat from manure or leaves, having hot-water pipes, but there is danger of dryness at the roots from these. In frames I find it best at the start to give the beds the full quantity of soil needed, that is sufficient to allow of moulding up as soon as the top growth is large enough. At least 12 inches to 15 inches should be given, this being placed in the frame in time to get warmed through before planting. In cold weather it is a good plan to cover the frames at night. The heat at night should not range higher than 55°, with 10° more by day. Cold draughts are bad, as these make the haulm near the soil lose vigour, the leaves turn yellow, and once a check is given the plants cease to tuber.

For later supplies I have used turf pits to great advantage; indeed, this old system, though now little practised, was one of the best. In such I obtained the best tubers. Others, again, may have cold frames, and tubers planted early in the year will give good crops late in April or early May. In the planting of tubers without heat of any kind other than glass protection, it is well to use good sized sets. It is also advisable to well ripen the seed and give good soil, well enriched not so much with manures as with fertilisers, giving liquid manure as growth is made. G. WYTHES.

Christmas salad.—This is doubtless a fine selection from the Witloof Chicory, a root much grown on the Continent, not only as a salad when blanched, but as a vegetable. For the latter purpose it is much liked if the shoots are not grown in too much heat and cut like Seakale before they expand. This plant grows so freely in almost any soil that there is no difficulty in having a good lot of roots for forcing from now to March. Forced in a dark place in a temperature of 60° the plants produce a lot of salad material. If used as a vegetable the growths should be cut before they get more than 4 inches or 5 inches long. In the winter when Lettuces are scarce, the tops of this plant when blanched make a valuable addition to the salads in season. —S. H. B.

Lettuce Record.—A few seasons ago I tried several of the well-known hardy kinds of Cabbage Lettuce, including Record and The Intermediate, the latter more of a Cos than a Cabbage variety, but one of the hardiest varieties I have grown and a distinct break from other types. The Record is not unlike the well-known Tom Thumb, but larger. It resembles the Brown Standwell in colour, having dark brown leaves, and the quality is excellent. These brown leaved types are the hardiest, and Record being a medium grower is one of the best. This variety winters on a sheltered border without any protection. I grow it in hot weather on account of its long standing. Record stood the severe drought last summer much better than summer varieties. There is no lack of varieties of Lettuce, but none too many

really good hardy kinds, and this one is well worth adding to the list for either summer or winter use. —G. W.

Hardy Cabbage Lettuces.—Although several of the more recently introduced varieties of small Cabbage Lettuce are an advance on the older forms so far as early maturity is concerned, it is doubtful if there are any to equal in point of hardiness. All the Year Round and Hardy Hamersmith. If either of these is planted some 6 inches apart in a well-glazed, drip free frame in October, the soil being brought up to within a foot of the glass, and a little protection given in very severe weather, they will grow steadily through the winter and form nice heads in early spring. It is also a good plan to plant a row or two at the foot of a south or west wall to come in after the frame batches and before the Brown Cos. In case of very sharp frost they will need a little protection. —B. S. N.

The Tree Tomato.—As an ornamental plant many could grow this, but for use I fail to see its value. Some years ago this was exhibited at a meeting of the Royal Horticultural Society and did not find many admirers, as very few who tasted it cared for it. It is by no means a profitable plant to grow. Mine was quite two years before it fruited, and those who picture this variety as somewhat similar to a Tomato will be somewhat disappointed. I do not think it out of place in a collection of plants. It is interesting, I admit, and in these days when cost of production is a cardinal point in most gardens, I fear the Tree Tomato will not become a general favourite. It would be worth trying to see if fruiting could be hastened by taking cuttings from fruiting plants. This would be a gain, and probably a much dwarfier plant needing less space would result. —F. R.

Cauliflower Early Dwarf Erfurt.—This Cauliflower has been for many years before the public, and I think it still one of the very best for first cutting to follow the late Broccoli. There is no great difficulty in having a succession of Broccoli and Cauliflower if the latest kinds of the former, such as Model or Late Queen, are grown, with the Early Dwarf Erfurt Cauliflower as a first crop in the open to follow the Broccoli. Unfortunately, there are some poor types of the Erfurt, one I had being greatly superior to others I grew. The one named is very distinct, having a dwarfier habit than many early kinds; at the same time the flower is of a good size, pure white, and firm. It is certainly one of the best for autumn sowing, as it stands our winters well. I put up many hundreds of plants for early cutting. I find much better heads are obtained when the seeds are sown in the autumn. —S. M.

Wintering Cabbage plants.—I am afraid that in the majority of gardens not only good winter, but also spring supplies of green vegetables and Broccoli will be none too plentiful. As long as small heads of Broccoli are forthcoming one is satisfied, but this autumn such havoc has been wrought by caterpillars that even small heads of good quality will, I expect, be the exception. The most then must be made of plantations of spring Cabbage and care taken of those now in the seed-beds, as the earliest transplanted batches, equally as much as Cauliflowers, will be likely to bolt in spring, especially on light soils, and should the rainfall this winter be small and the spring dry, I would strongly advise making a late planting in frames and protecting open-air seedlings in case of severe weather, also earthing up permanently-planted quarters. One of the best safeguards against bolting and other mishaps is to grow several sorts, if only a few rows of each. —J. C.

Young Cauliflower plants.—After such a peculiar season, young Cauliflower plants raised for the production of heads in spring or early summer will be very liable to behave strangely. It will therefore behove those who would avoid disappointment to have more than one string to their bow. It is not always that the cream of the seed-bed which is carefully planted in frames or pits comes out the best in the end, although that

is the only really safe method of wintering the plants. With a mild winter the second-sized plants left out on the border may prove invaluable next season, and I would advise those who have them to give a little extra trouble. It will be well to make a second planting into frames, and though rather late for the work, if a goodly number are planted closely together in a bed on a warm border and a rough frame erected over them so that protection can be given, it will be better than leaving them in the seed-bed, as they become leggy and never transplant so well. —C. N.

July-sown Carrots.—A large breadth of Early Scarlet Short Horn Carrot sown about the middle of July is very acceptable just at present, with choice outdoor vegetables none too plentiful. The border where they are growing was cleared of a crop of William Hurst Pea, well manured and deeply dug, and after lying a day, had a slight treading to settle it. The weather at the time of sowing was very dry, so the drills were drawn in the afternoon after the sun was off the border, and received a good soaking, the seed being sown and covered in early the following morning before the ground had dried. The young plants came away well and the roots are now about an inch in diameter—just the right size for table. With sowings in a frame in January, and in the open respectively in February, April, and July, young Carrots are obtainable nearly all the year round and may be grown in all gardens. The January sowing should be made on a bed of leaves. If sufficient can be obtained to build up the bed 4 feet or 5 feet high, so much the better. Manure can then be entirely dispensed with, and the warmth, although not strong, is long retained. —E. BURRELL.

Potato Beauty of Hebron.—Beauty of Hebron is a Potato which has stood the test of time, and, as with that favourite of Mr. Tallack's, Snowdrop, it may be used as early as the beginning of June, and yet will keep sound and good until the new year has considerably advanced. It is true that in wet seasons and in strong soil it is rather liable to disease, but this season should have suited it, and from the light soil of this district it has this summer lifted in grand condition, its floury texture and sweet nutty flavour being such as all Potato lovers appreciate. As a cropper it is hard to beat, this being one of the reasons why market growers having light soil still grow it largely for the London and other markets. The articles by Mr. Tallack and Mr. Prinsep on the Potato crop in their respective gardens will have been read with interest by others besides myself. I am pleased to read of the newly-introduced variety Syon House Prolific maintaining its good reputation, also that Mr. Tallack still clings to some of the good old sorts, as I think it is a pity really sterling varieties should be pushed out of cultivation by very often inferior sorts. —NORWICH.

Late runner Beans.—Seldom have these been in good condition so late in the season as this year. I had a continuous supply till November 5, and this from tall runners without any protection except the shelter of some high trees at a distance. I thought I was exceptionally fortunate, but to my surprise I saw a half-sieveful of nice Beans in a greengrocer's shop in Camberley several days later. On asking where these had been grown, I was told, in a garden near by. This goes to show the advantage of not relying on one sowing if a long supply is wanted. For years I have made two or more sowings and generally found it paid. Runner Beans will continue bearing a long time when they are grown on highly cultivated ground and the Beans kept gathered before they get old. My first row is sown on this kind of land, and this season they went to the tops of 12-foot stakes, and would have reached 3 feet more had the stakes been high enough. But from these the supply diminished considerably as the autumn came on, and those sown about June 15 gave the best results for late work. It is a good method where the land is good to sow after the first Potatoes are dug, allowing them to run over sticks laid on the

ground, as in this way they can be protected.—DORSET.

Large Onions.—In his somewhat severe criticism of some recent remarks of mine concerning large Onions, "Onion" seems to have materially misunderstood me. My complaint as to certain large Onions obtaining prizes related to making awards by weight only, and not by appearance, thus granting to mere size what was meant for beauty, solidity, freshness, evenness, and keeping excellence. Not only were the heaviest Onions in question discoloured, but the skins were devoid of that finish which should always characterise bulbs of the highest excellence. To assume that because I deprecate the practice of allowing the scales to determine excellence in Onion bulbs on the show table, and not the knowledge and intelligence of the judges, and that I want to place a mere ordinary sample before huge bulbs produced by the new culture is absurd. Still, even in that case "Onion" must not be too certain that greater weight from a given area is obtained from a planted-out Onion crop 2 feet apart than from one from a spring or autumn sowing giving twelve bulbs in the same space. But after all, that is beside the question, and I have no intention to deprecate the new culture which leads to the formation of great 2-lb. to 3-lb. bulbs. But when these fine bulbs have to be judged, let not mere size or weight govern the decisions. The points I have named above after all are much more meritorious; indeed finish, beauty, solidity, and keeping qualities are in all these Onions of primary importance, and should never be put aside for other considerations.—A. D.

The Cabbage fly.—In THE GARDEN of October 15 and November 5 the question of *Anthomyia brassicæ* and clubbing in Cabbages was dealt with. "G. S. S." is quite right that there is no connection between the two. I have found no difficulty in dealing with the clubbing, but am still searching for a remedy against the *Anthomyia*, which destroyed nearly all my *Brassica* crops this year. I have found that here the fly causes little damage except in dry, hot weather, such as we had last summer. My own belief is that all treatment of the evil—soot, lime, &c.—is of no use. The fly may be hatched elsewhere. It lays its eggs in the Cabbage-stalk; the grub is hatched and does the damage before coming into contact with the ground. I am convinced that the remedy lies in some preparation applied to the stalk of the plant itself to prevent the fly laying its eggs, or to kill the grub as soon as hatched. I have tried many things. Paraffin seems to give protection for a short time, but is not a cure for the evil. I should be very glad to know if any of your readers have discovered a remedy for this pest.—HUBERT CONGREVE.

* I quite agree with the above remarks about it not being of much use to treat the soil in the case of Cabbages, &c., attacked by the Cabbage fly (*Anthomyia brassicæ*), and that it would be of more use to coat the stems with something that would keep the flies away, if such a compound could be found. From the fact of this insect doing more harm in dry weather than in wet, it is probable that the flies are more abundant in fine weather than in wet. Perhaps painting the lower parts of the stems with a thick whitewash, or a mixture of a similar consistency composed of soil and nitrate of soda, might be useful, provided it did not injure the plants.—G. S. S.

NOTES AND QUESTIONS.—KITCHEN.

Coprinus comatus. I presume that the fungus described in THE GARDEN as the tall or cylindrical *Agaricus* is *Coprinus comatus*, the flavour of which is considered by some superior to that of the common Mushroom when cooked. It also is said to make most excellent sauce. A few days ago a large quantity of it appeared in patches near the S.W. Railway between Clapham and Wandsworth. In this fungus the spores are black, and the cap, at first cylindrical with a

rounded top, becomes gradually slightly conical by expanding below.—E. M. HOLMES.

Pea May Queen.—During November I saw an excellent dish of this Pea sown in heavy soil in June specially for late dishes. For some three years I have grown this variety on account of its good qualities and earliness. There is a distinct trace of the Marrow in it and it is one of the earliest Peas I have grown. Sown side by side with others noted for their earliness, this one was ready by the third week in May, and what is so important to growers, the Peas are of a nice size and of good quality.—S. M.

GARDEN FLORA.

PLATE 1201.

THE SHRUBBY ST. JOHN'S WORTS.

(HYPERICUM.)

(WITH A COLOURED PLATE OF *H. MOSERIANUM*.)

CONSIDERING its size and the really ornamental character of many of the species and varieties, the genus *Hypericum* is but poorly represented in gardens. There are in all probably upwards of 200 species, and whilst most of these are



Hypericum Hookerianum (syn., *H. oblongifolium*).

either herbaceous or too tender for this climate, and therefore do not come within the province of the present paper, the hardy woody ones that remain constitute a useful and desirable group. It is true that these *Hypericums* present but little variety in the colour of the flowers, for they are all of some shade of yellow; but they vary a good deal in height, mode of growth, and in the size and character of the flowers and leaves. To my mind the great value of the St. John's Worts is in the time of year they flower. A few of them are in bloom by June or early July, but most of them are still at their best in August, and they keep on flowering till the end of September and, in suitable seasons, till October. It is during these months that the absence of flower amongst trees and shrubs is most apparent.

Next to their yellow colour the most noticeable feature of *Hypericum* flowers is the num-

ber and length of the stamens. These are united into three or five bundles, which, together with the number of divisions in the seed-vessel, afford botanists important distinctive characters. The leaves of many species are distinguished by a number of pellucid dots, more especially crowded near the margins. The smaller species are suitable for the rock garden, while the taller ones are seen at their best planted in groups towards the front of the shrubbery. None of them require the soil to be of more than moderate richness. They can be propagated by seeds, cuttings or division. Some of the species mentioned in the following notes are not absolutely hardy except in the warmer counties, and during hard weather some covering should be provided. A layer of dry leaves thrown lightly over the roots and around the stems, and kept in place by a Spruce branch, is a good covering, and is not at all unsightly.

The following list does not include all the species that are, or have been, in cultivation, but it includes the best of those that are available. Those marked * are the more tender sorts:—

EUROPE (INCLUDING MEDITERRANEAN REGION).

* <i>Ægyptiacum</i> .	<i>Elatum</i> .
<i>Androsæmum</i> .	* <i>Empetrifolium</i> .
* <i>Balearicum</i> .	<i>Hircinum</i> .
<i>Calycinum</i> .	* <i>Olympicum</i> .

ASIA.

<i>Ascyron</i> .	* <i>Patulum</i> .
<i>Hookerianum</i> (syn., <i>H. oblongifolium</i>).	* <i>Uralum</i> (syn., <i>nepalense</i>).
<i>Inodorum</i> .	

AMERICA.

<i>Ascyron</i> .	<i>Galioides</i> .
<i>Aureum</i> .	<i>Kalmianum</i> .
<i>Buckleyi</i> .	<i>Prolificum</i> .
<i>Densiflorum</i> .	

H. MOSERIANUM is a hybrid.

H. ÆGYPTIACUM.—In sheltered situations and with the help of a little covering this species has survived hard winters in this country, but it is, nevertheless, one of the less hardy sorts. The specific name is misleading, for although it has an extensive range over the Mediterranean coasts and islands, it has never been found truly wild in Egypt. It is a dwarf shrub with tiny pointed leaves each from one-eighth of an inch to a quarter of an inch long, crowded very thickly on the branches. The flowers, borne singly at the ends of the numerous lateral twigs, are of a pale golden-yellow, and three-eighths of an inch across. Only the terminal half of the petals is spreading, the lower half of the flower being somewhat tubular. The plant is a singularly pretty one both in its foliage and in the profusion and brightness of its flowers, and it is a pity it is not more hardy. At Kew it has been most successfully grown out of doors at the foot of a south wall, with a covering of some dry material in winter. It is now a rare plant, although it was introduced in 1787.

H. ANDROSÆMUM (Tutsan).—Whilst in its foliage and in its fruits this is one of the handsomest and most striking of the *Hypericums*, it is somewhat deficient in regard to the beauty of its flowers. It is a shrub of robust habit, growing from 1½ feet to 3 feet in height. In cultivated specimens its broad, ovate leaves are occasionally close upon 4 inches in length and of a rich dark green. It bears its flowers in cymose clusters at the ends of the main and lateral branches; from three to twelve are in a cluster, and each one is about three-quarters of an inch across and of a light yellow. The flowers are followed by handsome black-purple, pulpy berries, each about the

* Drawn for THE GARDEN by H. G. MOOR. Lithographed and printed by J. L. Goffart.



size of a pea. The species is a native of Europe. It has been found wild in the south of England and in the west of Scotland, but is rare. It flowers from the latter part of June to September. The popular name of Tutsan is a corruption of the French "Toute-saine" (Heal-all), and refers to the many curative qualities the plant was at one time supposed to possess.

H. ASCYRON is a somewhat coarse and ungainly species, which is chiefly interesting in being a native of both North America and of Northern Asia. It grows from 2 feet to 5 feet high, has



Hypericum patulum.

narrow leaves averaging 3 inches in length, the base of which partially clasps the stem. The flower is 2 inches across, with curiously shaped narrow petals. Towards autumn the plant is apt to become rather unsightly through the lower leaves dying and remaining on the stems. It is semi-herbaceous.

H. AUREUM.—Of the New World species this is the most attractive—at least as regards its behaviour under cultivation here. It is an erect bush of rounded form, eventually attaining about 4 feet in height, and more distinctly woody than most *Hypericums*, its lower branches often falling away and giving it the aspect of a miniature tree. The leaves are rather glaucous and leathery, and each from 1½ inches to 2 inches long. The flowers are orange-yellow, and each about 1½ inches across, with a large and conspicuous mass of yellow stamens filling the centre. Here it generally commences to flower during the latter days of July or the earlier ones of August. The fruit has the shape of a pointed cone and is three-quarters of an inch in length. The species is a native of the South-eastern States of North America, and was first discovered by Bartram in July, 1776, "upon the steep, dry banks of Patse-Lega Creek, a branch of the Flint River, in Georgia," where he describes it as being of extraordinary beauty. It appears to affect rocky situations in its native state, and is often to be seen on the cliffs of river-courses, generally where it gets some shade. There is a good figure of it in *Garden and Forest*, 1890.

H. BALEARICUM.—Like *H. ægyptiacum*, this is one of the rather tender Mediterranean species, and requires protection and careful watching if cultivated in the open in this country, as might, indeed, be expected of a plant from the Balearic Isles. It is not only a pretty little shrub, but also one of the most distinct and interesting.

From all the other species here mentioned it can easily be distinguished by its leaves; these are each half an inch long and oblong, the lower side having numerous little raised, wart-like lumps irregularly arranged. Corresponding to each of them is a scar-like depression on the upper side. The young branches have also the same warty character. The bright yellow flower is 1½ inches across, and has rather narrow petals and numerous long, thin stamens. The first recorded introduction of the species to Britain was in 1718, when seeds were sent from Minorca by an apothecary of Barcelona named Salvador, but from information left by Clusius, the botanist, it seems to have been known here long before—as far back, indeed, as 1580. It is abundant also in the larger island of Majorca.

H. BUCKLEYI.—It is only some five years since this *Hypericum* was introduced to this country, seeds having been sent to Kew by Professor Sargent in 1893. The plants thus obtained flowered in 1895, and seedlings have been obtained from them. It has already proved a charming little shrub, quite distinct from any we previously possessed, and the smallest of the hardy species. It is rather like some of the dwarf *Veronicas* in habit, and is admirably adapted for the rock garden, forming neat rounded tufts only a few inches high. On the small plants at Kew the leaves are each about half an inch long, broad and rounded at the apex, but tapering to a short stalk at the base. They are closely arranged on the very slender four-angled twigs, each of which bears a single flower at the top. The bright yellow flowers are each 1 inch in diameter and appear from early July onward. According to Professor Sargent (who figured the species in *Garden and Forest* in 1891), this pretty and delicate plant is one of the rarest of American shrubs, and is only known to exist on a few of the higher mountains of the Carolinas and Georgia, where it was discovered by Mr. Buckley many years ago. The plant is described as wide-branching, with stems 8 inches to 12 inches long, and the leaves appear to get considerably larger than they have done here as yet.

H. CALYCINUM (Rose of Sharon).—Taken altogether, this is the most beautiful and useful of the St. John's Worts. Its flowers are the largest, it is a plant of very vigorous habit, and near London, at all events, there is no question as to its hardiness. It is a native of the Levant, but has now become naturalised in several parts of the British Isles. It has a creeping rootstock and spreads rapidly in well-worked soil. From the ground the stems (mostly unbranched) rise in a thick mass 1 foot or more high and bear several pairs of dark green leaves, each measuring 2 inches to 3 inches in length. The flower, borne at the top of the stem, is solitary, and from 3 inches to 4 inches across, the colour a bright golden yellow. The flowering season extends over July, August and September. This is an admirable under shrub, thriving well in moderate shade and making a dense carpet of richest green. It is evergreen except during our hardest winters. Besides the popular name given above (which is the prettier), it has been called "Aaron's Beard," from the number and length of the hair-like stamens.

H. DENSIFLORUM.—Whatever it may be in its own country, this *Hypericum* can only be described as of secondary importance as a garden plant in this. It is a native of the Pine barrens of the South-eastern United States, and is a shrub averaging 3 feet to 4 feet in height. It has numerous erect branches, whose leaves are made to look still narrower by the revolute margins. The flowers, each half an inch across, are numerous borne in broad, compact clusters. The species is variable as regards its foliage, a broad-leaved form being very like *H. prolificum*, under which species it was at one time placed by Asa Gray. The form with which I am acquainted is more like *H. galioides*, but it differs from this in the structure of the seed-vessel.

H. ELATUM.—Of our cultivated St. John's Worts, this is, in my experience, the most vigorous and robust. It grows some 5 feet high

and is furnished with foliage of the deepest green, its broad ovate leaves being 1½ inches to 3 inches long. The flowers are not proportionate to the plant in size, being generally about 1 inch across; they appear, not many together, in cymose clusters, but the clusters themselves are abundant. The plant is very handsome in autumn, bearing freely at that time its dark brown fruits, which are at first fleshy like those of *H. Androsæmum*, only longer and less rounded. As regards its flowers alone, it is less handsome than *H. calycinum* or *H. Hookerianum*, but its vigorous habit and handsome appearance make it a very useful shrub. It is now naturalised in some parts of Britain and Ireland (Cornwall, Argyllshire, Co. Down, &c.), but is not a true native of these islands. Loudon and others have given it as American, but this is an error. It comes from the Canary Islands.

H. EMPETRIFOLIUM.—Two years ago last September, whilst visiting Messrs. Dicksons' nurseries at Chester, I was charmed with a large patch of this little *Hypericum* in full flower. There were scores (possibly hundreds) of plants all about 6 inches high, as neat as young Heaths



Hypericum empetrifolium.

in growth, and covered with the pale golden-yellow flowers. Unfortunately, we are not able near London to keep it permanently out of doors. It survives the milder winters, but the entire stock should never be left outside, a few being potted up and put under cover. It is a Mediterranean plant, coming from the islands of the Grecian Archipelago and the shores of Greece

and Asia Minor. In this country one sees it, as a rule, under 1 foot in height, although in its native home it gets to be taller than that. It has erect stems and small, narrow, Heath-like leaves half an inch or so long, arranged in threes at each joint. The flowers, each about two-thirds of an inch across, are borne freely on slender, erect, branching spikes. The species, which is as pretty as it is distinct, was introduced by Lee, of Hammersmith, in 1788. It is used for the greenhouse at Kew.

H. GALIOLIDES.—More than 100 years ago this plant was in cultivation in the National Garden at Paris; but in spite of this and the fact that it is one of the most ornamental species in America, it has never been much cultivated in Europe. Possibly this and other American species do not adapt themselves perfectly to our climate, for they are certainly far inferior to the majority of the European and Asiatic species. *H. galioides* is a bush about 3 feet high, with leaves each $\frac{1}{2}$ inches long by only one-eighth of an inch in width. The flowers, each three-quarters of an inch across, are produced in small clusters at the ends of the shoots and in the axils of the uppermost leaves. It is a native of the South-eastern United States, and flowers from July to October.

H. HIRCINUM.—The most distinguishing character of this species is the goat-like odour of its leaves when handled. To this it owes its specific name. In spite of its somewhat evil odour the plant itself is a handsome one. It flowers very freely over a long period (from early August to October), and its foliage is abundant and of a deep green. The plant is also perfectly hardy, and altogether one of the most robust of the St. John's Worts. It is a bush 2 feet to 3 feet high, which branches very much towards the top of its stems, every one of its ramifications bearing several flowers, bright yellow and each $\frac{1}{2}$ inches across. It is a native of the middle latitudes of Europe, and was introduced to Britain in 1640. According to Syme in "English Botany," it is naturalised in the Haughley Woods, Norfolk, which is one of the best evidences of its vigour. *Var. minus* (*H. minus*) has smaller leaves and flowers, and is itself a much dwarfier plant. It is, nevertheless, as pretty and free-flowering as the type, and for some situations—in a rock garden, for instance—would often be preferable.

H. HOOKERIANUM.—One of the first places among *Hypericums* undoubtedly belongs to this species. Of the taller-growing ones it certainly has the most beautiful flowers. The leaves are each 1 inch to 3 inches long, almost or quite without stalks. Its first flowers are open in the early days of August, and it continues to bloom for the next eight or ten weeks. Even as late as the end of October a good bouquet could have been gathered from the plants at Kew. The flowers, of which there are several in a cluster, are each 2 inches across, of a rich golden yellow, the concave shape of the broad, full petals rendering them rather cup-shaped. It grows on the Sikkim Himalaya at 8000 feet to 12,000 feet above sea-level, also on the mountains of Assam. It was from the latter district, near Mufllong, that it was introduced by Lobb. I have not seen it more than 4 feet to 5 feet high, but it is said to grow 8 feet high in India. It is easily increased by cuttings, and ought more frequently to be grown. The species is sometimes known as *H. oblongifolium*, under which name a coloured plate of this plant was published in *THE GARDEN*, Sept. 4, 1886.

H. INODORUM.—As regards its habit merely, there is no more elegant *Hypericum* than this. It grows from 3 feet to 4 feet high, and forms a dense and very graceful mass of arching or pendulous branches luxuriantly furnished with leaves. It does not, however, flower with the same freedom as most of the St. John's Worts. It bears its flowers in small terminal clusters, and each blossom is 1 inch across. The leaves are quite devoid of any odour—hence the name. A native of the Orient.

H. KALMIANUM.—At the present time this species is very rare in gardens, most of the plants

so-called being really *H. prolificum*. In general appearance the two are similar, but they can be distinguished by the present species having five styles and five divisions in the seed-vessel, whereas in *H. prolificum* there are but three. It was discovered by the Swedish botanist, Kalm, probably at Niagara Falls, which he visited in 1750. It had reached this country by 1759. Professor Sargent, who figures it in *Garden and Forest* for 1890, describes it as rather rare and confined to lake and river-cliffs from the Falls of Niagara (where it occurs on Goat Island) to the Northern Lakes. It is a bush 2 feet to 3 feet high, plentifully furnished with leaves each 1 inch to 2 inches long, and, from July to September, with bright yellow flowers each 1 inch in diameter.

H. MOSERIANUM.—So far as I know, this is the only hybrid *Hypericum* hitherto obtained in gardens. We owe it to Mons. Moser, of Versailles, who raised it some ten or twelve years ago from *H. calycinum* fertilised with the pollen of *H. patulum*. It is remarkably intermediate between the two, and may in some respects be said to be superior to both its parents. *H. patulum* is a rather tender plant, but a very graceful one, and the hybrid has inherited a good deal of its grace with some of the constitutional vigour of *calycinum*. It is, however, by no means so hardy as the latter, and whilst it has proved fairly hardy at Kew (although very frequently cut back to the ground), complaints are made of its being killed outright in the northern counties. In most parts it is advisable to give it some light covering during very hard frost. The coloured plate now issued will give the best idea of its beauty. It is a graceful low bush, whose arching or even pendulous shoots bear their numerous flowers from July to September. This year one might have gathered flowers in late October. The blossom is 2 inches or rather more in diameter and of a rich golden yellow. On the whole, it is a very free-flowering and charming plant. Mons. André has stated that an identical plant has been obtained by M. Moser by reversing the cross. The variety tricolor is a variegated form, but is of no value as a hardy plant, being more weakly and tender than the green-leaved one. It has been recommended as an ornamental greenhouse plant.

H. OLYMPICUM owes its name to having been originally brought from the Bithynian Mount Olympus, where seeds were gathered and sent to the Oxford Botanic Garden by Sir George Wheeler. This was early in the eighteenth century. A figure of it was published in *THE GARDEN* for April 2, 1887. Its flowers are each from 1 inch to 2 inches across, the petals being narrower than ordinary and somewhat wedge-shaped. The foliage is glaucous. It is only hardy enough to withstand our mildest winters.

H. PATULUM.—Were it not for its want of hardiness there would be few more desirable *Hypericums* than this. It is almost always killed to the ground at Kew in winter, and in some seasons is so much injured as to be beyond recovery. But seen at its best it is a graceful and beautiful shrub. This may be seen by a plate in *THE GARDEN* for September 22, 1877. It has slender arching stems, which grow about $\frac{1}{2}$ feet high during the summer, and its bright yellow flowers are each about 2 inches across. It comes into flower in July and continues for two months. It is a native of Northern India, China, and Japan, and although discovered by Thunberg 120 years ago, was first introduced to Kew by Richard Oldham from Japan about 1862.

H. PROLIFICUM.—Of the American *Hypericums*, this is in English gardens the healthiest, and on the whole most satisfactory (although *H. aureum* is at its best more beautiful), in consequence of which it has always been the commonest. It makes a handsome bush of erect, compact growth, 3 feet in height, well furnished with rather glossy dark green leaves that are each 1 inch to 2 inches long, and which vary in width from one-eighth of an inch to half an inch. Its clusters of blossoms are freely borne towards the ends of the shoots from July to September, each flower being 1 inch

to $\frac{1}{2}$ inches across and bright yellow. In mild winters the plants retain most of their foliage. It seeds very freely and is weakened thereby; therefore all the pods that are not needed should be removed after the flowering season is over. The species is a native of the Eastern and Central United States, and has been known in cultivation since 1758.

H. URALUM.—Nearly allied to *H. patulum*, this species is not quite so ornamental a shrub. It is, perhaps, slightly hardier, but is still one of the more tender sorts. It grows 2 feet to 3 feet high and has leaves each 1 inch to $\frac{1}{2}$ inches long. The flowers are produced in terminal clusters of three to twelve flowers, each bloom 1 inch across and golden yellow. It was discovered by Dr. Francis Hamilton, and was introduced in 1823. It has no connection (as might be supposed from the name) with the Ural Mountains or province; it comes from Nepal, and the specific name is an adaptation of the native name—"Urala Swa."

Arboretum, Kew.

W. J. BEAN.

THE WEEK'S WORK.

KITCHEN GARDEN.

FORCING SEAKALE.—This has been the worst season I have experienced as regards the growth of the first forced supplies, the heads being poor in comparison to the size of crown and roots. There will now be a better return, as the roots, having had a longer rest, will force easily. It will be found that forcing in a low temperature will give the best quality. Roots will now force freely in a temperature of 60° or less if a little more warmth can be given at the roots. Lack of moisture during the forcing will not be good for the plants. To forward batches of the roots for certain dates I find it advisable to water freely with tepid water early in the day, leaving uncovered for a short time for the tops to dry. If a little salt is added to the water it improves the flavour of the Kale. It will now be advisable to put roots into heat once a fortnight in quantities sufficient for the demand, and anyone who has not got a Mushroom house to force in may get reliable supplies by using boxes placed over hot-water pipes, covering the tops well and giving plenty of moisture.

SEAKALE FORCED IN OPEN GROUND.—The best quality Kale is secured from roots forced in their growing quarters. Now is a good time to cover the stools. Of course, thus early it will be advisable to have a strong plant. The chief point in culture is to avoid using too much rank manure, as this causes so much steam that the tender growths are burnt and decay rapidly. It is far better to use more heating materials with less heat, such as a goodly portion of leaves, as a temperature of 60° to 70° will be ample for the roots. Pots with covers are usually employed, but shift may be made with boxes or barrels, or even sticks placed over the crowns brought to a point and sufficiently high to allow the new growth room to develop. If the heating material is placed more thickly at one end of the row than the other, there will be a longer supply. Kale grown thus is most useful, as it does not all come in at once like that in a heated house, and the produce is much more succulent.

SEAKALE FOR SPRING SUPPLIES.—Many may think Seakale is not needed in March and April, but I find it most useful at the season named, as there are then none too many green vegetables. The best way is to grow plants specially for this work. I plant in rows, allowing 4 feet between the rows. These plants remain two years in their growing quarters. Of course they would give a much longer supply, but the produce is inferior to that from younger plants, the roots splitting up badly as they get older and are not covered so readily. I have, to secure a catch crop, planted strong crowns of roots intended for forcing, and got good results, but here the plants will not make such fine growths. Anyone who needs a spring supply may follow out this plan,

planting now if the weather is open. Though the plants may not need more than 2 feet of room the first season between the rows, they will the next. Then every other row may be lifted and forced. That for the spring supply will not need any protection such as advised for plants forced. With ample soil coverings I have had it well into May. At this season the quarter must be cleared of old leafage, and I find it necessary to place a good covering of fine ashes over the crowns, as in severe weather large birds will attack them, and in a mild time slugs are most destructive. For March supplies it is well to cover at the end of this month. I place boards about 6 inches clear on each side of the roots. This space is filled in with fine soil or ashes, and over this and the boards also, to the width of 2 feet and nearly as much in depth, is placed soil from between the rows. For later supplies I do not cover till January, and do not even use boards, merely banking up the soil over the roots, but in sufficient depth to retard the growths and also to bleach it, as in the spring it will soon push through the soil. Many growers would find it advantageous to leave a portion of their roots in the ground to be grown as advised. The quality of the produce grown thus is excellent.

ASPARAGUS.—This has forced much better than *Seakale* and in a shorter time than usual. Of course, much depends upon the strength of the plant as regards successful forcing. It will now be advisable to lift plants every three weeks to maintain a supply, and, unlike *Seakale*, it needs a light place to green the tops as they push through. I prefer a pit for supplies from now to the end of January, as there sufficient warmth may be given the roots; at the same time the top temperature, if not more than 60°, will promote a more succulent growth. Leaves and manure mixed are the safest heating materials, as manure alone is too quick and some of the roots fail to throw up. It is always a safe plan to have the heat 10° to 15° higher than that of the house or frame. Asparagus will now force without bottom-heat if placed in a warm frame or house, but the growth will be slow and not so certain. I referred some weeks ago to the importance of forcing permanent beds, and now is the time to prepare the materials and get out the old forcing material. For beds forced thus, a good dressing of fish manure or guano will do good before covering the beds if given in wet weather.

FORCING FRENCH BEANS.—This is not a profitable vegetable by any means forced in what may be termed midwinter. Unless the demand must be met, I would not advise sowing seeds till early in the year. On the other hand, with more attention to cultural details and the use of small pots, a small supply may be secured in February. For this early supply I find *Early Favourite* one of the best. The older *Mohawk* runs it closely for time, but lacks weight of crop. The usual mode of sowing in 7-inch or 8-inch pots is not advisable for first crop, as the root space is too great. Good results will follow if sown in 5-inch or 6-inch pots, and these will need bottom-heat from the start. Mine are plunged in fibre over the return pipes in a warm pit. A light compost and ample drainage are a necessity. Avoid crowding the plants; three to four plants in each pot are ample; indeed, two will suffice if strong and in the size of pot advised. It is best to sow in the fruiting pots, filling the pots nearly to the rim, as later top-dressing is of no value at this season of the year. Moisture must be given sparingly from the start, and it is important to use seed of this season's growth, such seed being more vigorous. Grow as near the light as possible and in a temperature of 65° to 75°.

CUCUMBERS.—Like French Beans, these are not a profitable crop in the winter months, but I must have Cucumbers all the year round. The winter plants are now allowed to fruit very sparingly, and they are also given more warmth at the roots. Being in pots, this is an easy matter. All surface roots should be encouraged, for as long as these are made there will be a

certain amount of top growth, and this should be made the most of, only one fruit being allowed at each joint at a time. Avoid strong fumigation, as this tells on the tender foliage, and the plants soon fail if the foliage is poor. If at all troubled with red spider or thrips use the XL All vapouriser, which is safe and effectual. Plants with a fair lot of fruit should never be allowed to carry it a day longer than is necessary, as the fruits when cut will keep a goodly time in water and be none the worse. I find it advisable to top-dress the plants every three weeks, using a rich compost, such as bone-meal and good loam, with a portion of spent Mushroom manure. The temperature should be a liberal one, 65° at night, 5° to 10° higher by day in bright weather, covering the glass at night to prevent hard firing. Water always with tepid water or liquid manure. Seeds may now be sown for planting out early in the year. These will fruit late in February.

TOMATOES.—Plants with fruits ripening will now need more warmth with at the same time ample ventilation in bright weather. I have this season, owing to the damp weather of late, had more fruits crack than usual. Warmth will not do much good unless the plants have finished cropping, as too much heat breeds white-fly and causes a spindly growth, and any small fruits set fail to swell. Plants raised in August or earlier are still on shelves in a temperature of 55°, and as long as the mild weather lasts they will remain thus. Towards the end of the month the first lot of young plants will be placed in their fruiting quarters, and with lengthening days more warmth will be given. Now is a good time to sow seeds for early spring fruiting. I have found sowing two or three seeds in a 3-inch pot a good plan for a very early lot, as the two weakest seedlings can be destroyed, and the plant left does not suffer in the least. S. M.

HARDY FRUIT.

OLD GARDEN WALLS.—From the point of attractiveness there is a beauty all its own in old walls, even if the bricks or stones composing them are crumbling down or the mortar falling out. But from the utilitarian point of view it is not so; old walls often give to those in charge of them a considerable amount of trouble. This will arise from two (at least) various sources. Rotten or crumbling walls are bad for the operation of nailing, owing to which those who have this work to do cannot be blamed if they do drive nails into the brickwork where it is sound. Another and more serious argument against them is the protection they afford to insect pests. Of these there are the wood-louse and the earwig, both of which will commit serious depredations upon tender fruits in the autumn. The former enemy is very fond of the best kinds of Plums and will mark these if they happen to touch the wall. The earwig preys upon Peaches and Nectarines to a serious extent. These old walls afford to these insects a safe retreat. Then there are aphides in variety, with other troublesome things as well. It is, I am aware, a somewhat expensive process to point a wall of considerable extent, but, all the same, it is a matter that calls for attention. If taken in time it will prevent the bricks from crumbling away also, which otherwise is likely to occur during severe frosts. When repointing is done, it is worth while to consider the question of inserting studs in order to save so much, if not all, the nailing. Stud driven into the joints of the brickwork will answer well for securing the old wood if for nothing beyond that. These studs should be driven home so as to keep the trees as close to the wall as possible. If placed at regular intervals and so arranged as to insert a good quality of tarred string in a diagonal form, a deal of nailing may be saved and the walls too. The present season of the year is the best for doing this work, better by far than the spring-time when the buds are swelling. Then there is not only the prospect of injury to these, but it also means a delay in attending to the trees. In most cases, good mortar made of fresh

lime and sharp sand will answer the purpose well, being less expensive than cement, and, on the whole, far more expeditiously applied. At such times the top-course of these walls should be repaired too, otherwise, if the wet gets into them, further injury will be done. Do not omit either to clear away the surface-soil, so as to give attention to these courses as well. If projecting tiles are arranged at the top, see that they are kept in good order too. Should it be intended to provide glass copings for the walls, it is most advisable to get the work forward as expeditiously as possible so as to have the full benefit of them next spring. Where these already exist, see that all the iron fixings are secure, also that the glass is sound.

RENOVATING OLD TREES.—Some growers may have to do with old trees of good varieties, be it Apples, Pears, Plums, Cherries, Peaches, or Nectarines. These may be established favourites which are not parted with readily, but which are showing indications, perhaps, of declining vigour. If such be taken in time, it is frequently possible to rejuvenate them for some years to come. The best restorer undoubtedly is good maiden loam with a moderate amount of well-rotted farmyard manure, to which is recommended also a fair dressing of bone-meal or lime rubble, especially for stone fruits. Exhaustion in the case of these may be only from want of phosphates in the soil. If this be so, then omit the farmyard manure and make more use of those named afterwards, but not in an excessive degree, otherwise the very object will be defeated. It is always possible to gauge pretty accurately as to what is wanting. If the growth be weakly it indicates a want that will be supplied by all that has been recommended, but if it be of a non-fertile character with vigour of growth present in the trees, it points to a deficiency in the constituents of the soil for the complete development of the fruit; hence the use of lime in varied forms when the soil is non-calcareous. The old soil should be carefully removed until the roots are reached, when if these are found to be at a great distance from home they may be pruned, some if possible being lifted so as to work the fresh loam amongst them. If the case is not a really bad one and the fresh loam not conveniently at hand, a surface dressing of bone-meal should be forked in and then a mulching of farmyard manure applied. In the case of many trees this has been found to be beneficial after a season or two. Trees on grass do not, as a rule, get any manure, and they go on from year to year, but it would be better for them if occasionally the ground were broken up. If this be done the turf itself can be buried, and this of itself will be a manure, but in addition the others, as just recommended, should be added. If not supplied with what they need many old trees will become quite worthless. They might possibly develop flowers, but not be able to carry a crop of fruit to completion in a satisfactory manner. Upon heavy soils the growth may be vigorous still upon aged trees. If these are bearing fairly good crops on the whole, but the fruit small, it points again to the need of assistance. In such cases let it be of an artificial manure in which nitrogen and ammonia, two excitable manures, do not predominate over phosphates and potash. Old orchard trees often need a careful amount of pruning even if they are still in good bearing condition. The wood must of necessity become too dense in course of time. To remedy this, the innermost, which will also be the weakly branches, should be thinned out. These shaded growths cannot be productive of good fruit under any conditions. Occasionally an outer branch may be growing too strongly and be spoiling the balance of the tree; any such should be foreshortened, but not to an excessive degree all at once. See that all cuts are made clean and also close up to other branches in order to avoid any after-decay taking place. Hortus.

Primula floribunda.—This pretty species is undoubtedly well named, for scarcely any other

kind, save perhaps the better-known *P. obconica*, possesses a more profuse habit of flowering than this. The individual blossoms are, it is true, rather small, but this is compensated for both by the numbers and the rapid succession in which they are produced. In the colour of the flowers, however, the plant occupies a position almost unique, the only other yellow-flowered species being an Abyssinian kind of about equal hardness. This latter, however, is not so profuse, but by attempting a cross between the two, size of flowers on the one hand and a greater profusion of flowering on the other may be secured. *P. verticillata*, the other kind referred to, possesses a very attractive habit of growth, and being, like the above, a free seeding kind and of easy culture also, the experiment here suggested should be tried, as a break once gained between any two species in this way can soon be improved by seeding and selection.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS IN DEVON.

CHRYSANTHEMUMS were brilliant in the gardens during the early part of November, and even the slight frosts which occurred later and the heavy rains did not entirely terminate their display. This is the second year in succession that open weather in October and November has made the culture of midseason Chrysanthemums under glass unremunerative, for with a wealth of the same flowers and Dahlias blooming in the open, purchasers of the blooms of housed Chrysanthemums were few and far between. This season the early varieties were, at least in this neighbourhood, later than usual, while varieties generally classed as late bloomers matured their blossoms in advance of their accustomed time. Thus Niveum, which when lifted from the open ground and planted out under glass produces excellently developed flowers for cutting, almost equally as good, indeed, as those on pot plants, was at its best towards the end of November, although the plants had only been housed at the beginning of the month, whereas in 1896 it was in full beauty on Christmas Day. Its yellow sport, which, though perhaps of rather too light a colour, inherits the full-petalled blossoms that make its parent so desirable an acquisition, matured its flowers at the same time. Many blooms of Princess of Teck are already past their prime, while Ethel, a poor variety for cutting owing to its open dark eye, and whose demerits are intensified when the plants are lifted just preparatory to flower expansion, is already ripe for the knife. L'Enfant des deux Mondes, with its spidery, feathered petals, provides graceful sprays of flowers under the method of culture alluded to, but will be too far gone for cutting in the course of another week. Princess Blanche, sent out as a late variety, is already past its best, but Princess Victoria is not as yet fully expanded, and should keep for another fortnight or three weeks. This variety as well as L. Canning are apparently the two best late whites for lifting from the open and planting out under glass, as both are in excellent health and are producing full-petalled flowers freely. L. Canning will probably reach perfection about Christmas-tide, but the old Boule de Neige, last year a Christmas flower, is at the present date ripe for cutting. Of yellows, W. H. Lincoln does not lend itself to this method of culture, losing much of its vitality. Plants of this variety that were carefully lifted from the open early in October are, however, looking well. Mrs. J. F. Fogg is a good, rich yellow that lends itself readily to the lifting and housing process, as does another

bright yellow, E. J. Hill, with the reverse of its outside petals orange-red. Tuxedo is precisely similar to the latter variety in habit of growth and in the colour of its expanding buds, the open flowers, however, being of an orange-buff, whereas no tint but yellow appears in the expanded blooms of E. J. Hill. Another good yellow for cutting is the so-called single Admiral Sir Thomas Symonds, which lasts well. All of those named are at the present time so far advanced, that there is little prospect of any of their blossoms being available at Christmas. Of dark colours, Cullingfordi and the old favourite Julie Lagravere have already passed the zenith of their attractiveness, but the orange-crimson W. H. Coles still carries blooms not fully expanded. The old-fashioned Roseum superbum, with its delicately coloured blooms of blended pink and saffron, is a particularly decorative variety, but was at its best this year in mid-November. S. W. F.

Torquay.

INCURVED CHRYSANTHEMUMS.

NOT for several seasons past have the incurved Chrysanthemums been seen in such fine form as at the many exhibitions this year. Outside the chief London show they have appeared the best, and in several cases a dozen or more competitors were found in a class. That perfect type, of which Lord Alcester is, perhaps, the leading one, known commonly as the "Queens," was not generally abundant, but in a few instances was particularly good. The improvement seems more notable in the newer introductions, which are not so difficult to cultivate as are those of the type named. It was a step in the right direction to allow the more loosely built incurving forms into what was hitherto a very limited class, and this fact more than anything else has been the cause of renewed interest in incurved Chrysanthemums. This class a year or two back looked like being entirely ousted by the popular Japanese kinds, a fate which has overtaken the reflexed, Anemones, and other divisions.

Speaking of the newer varieties of incurved, nothing finer, for example, than the half dozen blooms of Duchess of Fife that won first prize at the Aquarium, Westminster, in November has been seen for some time. Next to it is Chas. H. Curtis, a sort that can be cultivated well by everyone. Ma Perfection and Mme. Ferlat are two white blooms of large size and good form. These, again, are easily grown. Except in a few cases, Lady Isabel, blush colour, was not in good form; generally very large, but coarse. I am afraid one requires a goodly number of plants of it to obtain a good specimen. Topaze Orientale, a creamy white flower, is large and capitally formed. This is altogether excellent, as its growth is dwarf and sturdy. Yvonne Desblanc is a nice pure white flower, the florets of good shape and incurving evenly. Globe d'Or is fairly well known now, and is a telling bronzy flower of easy culture. The blooms of Rena Dula are not over large, but they are especially neat, whilst the colour—rosy lilac—is bright and pleasing. Miss V. Foster was seen good. With me, however, it is a tall grower and uncertain to bloom. Nor is Miss Dorothy Foster much better, although the habit of the plant is good and the colour a deep lilac, somewhat like that of the last named. Bonnie Dundee is seen in Kent a very rich bronze bloom and of capital form, but this is not the case everywhere. Mrs. R. C. Kingston, when in its true colour a richly tinted white, is a remarkably good incurved sort. The white Mlle. Lucie Faure comes with blooms more often of a Japanese shape than a true incurved. In any form it is a striking flower, and one that should be largely grown. Promising among the newer kinds of the class under notice are Mrs. S. Owen, brown tint; Mrs. W. C. Egan, pink; Pearl Palace, shaded white; and Rose Owen, pink. Several new ones have obtained certificates this autumn, and

they are certainly likely to prove first-rate additions. Mrs. W. Howe, bright yellow; Miss Annie Hills, blush; Hanwell Glory, bronze; and John Mills are all of fine form and size.

Brighter and darker colours are much needed among the incurved class. Austin Cannell, a purple shade, is usually rough in form. The old variety Refulgens is seldom seen now, but in crimson nothing new approaches it. It is, however, the way of Chrysanthemums to exhibit the deeper shade inside the florets, and not until that order can be reversed can we hope to have shades of deep red in the incurved forms.—H. S.

Although the Japanese kinds predominate, there is, I think, more interest among a certain class of growers in anything new or striking that is discovered among the incurved. During the present season several novelties of recent introduction, that promise to be useful in the future, either on account of their size or colour, have been met with. Most of those mentioned below are deeply built, compact, and very regularly incurved, qualities of paramount importance to the grower for show. Thomas Singleton is very closely incurving and a compactly built flower, pure white, the outer florets tinted. C. S. Bates is a deeply built, very regular flower, large in size and of a pure golden chrome-yellow. Pearl Palace is a rather promising variety, colour pinkish lilac, and another is called Mrs. W. C. Egan, very deep and solid, colour pink. All these were seen in the collection of Mr. Owen at Maidenhead, and will presumably be distributed next year.

Among other novelties of the incurved section, some of which were seen in very good form last year, are the following: Miss Godsmah, with very fine deeply-built blooms, compact, but rather coarse, inside of florets crimson, reverse golden bronze; Ada Owen, very pretty and regular, large in size, having stiff florets, which are close and compact and rather broad, colour pure white. Major Matthew, a rather pretty little flower, has narrow florets, of good depth, globular in form, colour pink. Yvonne Desblanc is a very large pure white; so, too, is Topaze Orientale, very deep in build and with numerous closely incurving florets, colour pale yellow. Emile Nonin is somewhat flatter, but of value on account of its colour, which is a deep golden chestnut. T. Lockie is something in the way of Mrs. R. C. Kingston, close in build and with very regular narrow, white, tinted yellow outer florets, shaded pink. John Miles is another whose build leaves little or nothing to be desired, colour golden orange bronze.—C. P.

Late Chrysanthemums.—Seldom has there been such a wealth of bloom on outdoor Chrysanthemums as during the present year; in fact, they have so completely glutted the markets, that those grown under glass have been a dead letter as regards any profit. Now that frost has brought outdoor blooms to an end, we may look to late blooms under glass to be of more value. In looking over my stock, I have come to the conclusion that Chrysanthemums for late blooming are propagated much too early in the year, for I find that one of my best lots of dwarf bush plants of W. H. Lincoln, yellow, was not propagated until May, when a good many of the others were ready to go into their flowering pots. The cuttings in question were good sturdy tops and were placed singly in 2-inch pots, where they very soon rooted sufficiently to be transferred to 4-inch ones, when they were set out in the open with the early ones and stopped at the end of June when they had developed several side shoots. As soon as they began to grow again they were shifted into 6-inch pots, and have each about a dozen good heads of bloom. Late propagating and late cutting back of the plants are far more efficacious in getting late bloom than any attempt to retard plants that have perfected their growth early in the season. When once the plants are placed under glass the flowers will naturally continue to expand, and once fully open, there must be warmth enough to expel the damp, so that retarding them in mild, wet weather is by no means easy. If the buds are firmly rolled up at the end of November, as they

will be on late-struck plants, good blooms for the new year will be assured.—J. G., Gosport.

CHRYSANTHEMUMS IN RUSSIA.

I would be greatly obliged if some Chrysanthemum grower would give me the names of the best large-flowered Chrysanthemums, new or old. They ought to be rather dwarf, not too late (October, November), and of easy culture. Of the kinds I grow, I like best Bouquet des Dames and its yellow sport Germania, Ma Perfection (rather small, but of exquisite form and growth), Robert Powell (rather tall), C. Shrimpton, Avalanche, W. H. Lincoln, Florence Davis, Ch. Davis, Vivian Morel, Wm. Tricker, G. C. Schwabe (splendid), Mrs. E. J. Trafford, Louise (fine), Souv. de Petite Ami, Mme. Ad. Chatenay, John Shrimpton, Mme. M. Ricoud (rather tall), Soleil d'Octobre, Mme. G. Henry, Lady Hanham, and Duchess of Wellington. I find the following good: President Borel, Pride of Madford (rather tall and somewhat late), Emily Silsbury and W. Seward (both rather weak stalks), Duchess of York (rather tall), M. Chenon de Léché, Mrs. C. E. Shea (tall), Mutual Friend, Stanstead White (rather uncertain and tall), Etoile de Lyon (coarse), G. W. Childs, and Niveum. I intend discarding La Triomphante, Sir Edwin Smith, Rose Wynne, Edith Tabor (splendid bloom, but growth too tall), Miss Storer, E. Audiguier, Puritan (too small), Mrs. T. S. Fogg, Amy Chandler, Amiral Avellan, Deuil de J. Ferry, Commandant Blusset (the form as well as the colour is not very interesting), Mme. Carnot (too uncertain), M. Chas. Molin, and Mrs. A. J. Hubback. Some of the following have not yet flowered; the remainder flowered only once, so that I cannot judge them: Good Gracious, Phœbus, Amiral Kasnakoff, Miss Dorothea Shea, Mrs. J. Shrimpton, M. Pankoucke, Mrs. H. B. Higgins, Mlle. Lucie Faure, Khama, Antoinette, M. Edouard André, Mme. Ed. Roger, Mme. Ernest Capitant, Miss E. Teichmann, Mrs. T. Lewis (seems to be very tall), Western King, N.C.S. Jubilee, Ch. H. Curtis, Modesto, Hairy Wonder, Fleur Grenobloise, and Chatsworth.

I should be very glad to get your advice as to which of these kinds I can discard. I hope to hear of some other fine sorts which I could add to my collection, which contains chiefly light-coloured kinds. In the purple or amaranth class I have Edouard Audiguier, Commandant Blusset, and Pride of Madford. The oldest of this trio is, of course, Edouard Audiguier, and I thought of discarding it some three or four years ago. Its place should be taken by Commandant Blusset, but I intend to discard both of them. Pride of Madford is the best of these varieties, but I am not quite satisfied with it as it grows rather tall and flowers rather late. Is there no better variety of this colour? I think J. Shrimpton the best all-round variety, as it is very easily grown, but its form is very flat. Better in form and also in colour is W. Seward, but this variety is not easy to grow, at least not with me. Grown in the natural way (I mean without pinching, and after the first break three or four shoots taken up and the first bud secured) it gets rather tall and leggy. The stalks being rather weak cannot support the blooms. The blooms attain a good size, but they are apt to damp. If the plants are pinched twice the blooms do not damp, but they open too late and the flowers do not reach a good size. Vivian Morel behaves with me rather in the same way as W. Seward. Pinched once it blooms early, the colour almost white, and a good percentage of the blooms will not open well; pinched twice, the blooms open well, the colour is good, but the flowers are somewhat small. Most of the large-flowered Chrysanthemums are propagated about the end of January or beginning of February.

I was very interested in the article, "Growing Plants for Exhibition" (p. 316). As I understand, the plants are to be propagated rather late—beginning of March—grown on without any pinching and the first bud taken. Would rather

early kinds like Lady Hanham, Vivian Morel, Ch. Davis, W. Seward, and others grown in this way yield satisfactory results? I should think that such sorts would show the bud too early, and consequently give bad results. What are the principal merits of Princess, Queen of the Earlies and Mychett White? I have grown these kinds this season for the first time and I could not see anything beautiful in them. Is it better to disbud them? R. K.

St. Petersburg.

TESTING CHRYSANTHEMUMS.

Of the well-nigh endless lists of novelties in Chrysanthemums that are each year offered to the public but a fraction of them is ever thoroughly tested to see the flowering capabilities of individual kinds. Indeed, it seems impossible that it can be otherwise seeing the influx is so great. So far as the exhibitor is concerned, a few novelties are selected each year in greater or less degree according to the amount of enthusiasm prevailing in a certain direction. These few are, of course, grown for a special purpose, and the chances are if they do not come up to expectations are discarded without further ado. If the variety is a tall one, it is more than likely the second crown bud will be chosen for flowering, and if a very dwarf grower the terminal may be the one selected. Beyond testing on the buds named little or nothing is known of scores—aye, hundreds of kinds, that have been sent out with the most lavish descriptions attached to their names. It frequently happens that some kinds absolutely refuse under certain conditions to perfect good flowers, while others selected, it may be, from this bud or that, stubbornly refuse to move. Naturally enough from an exhibitor's point of view these latter are the earliest to be discarded outright. All the same, it is possible were a more natural system of flowering indulged in, and, say about one-half of the attention and feeding given as when grown for exhibition, the same variety would perfect a dozen very respectable and useful flowers. This I have proved over and over again. It seems unnatural, too, that a specially vigorous kind, and a good vigorous rooter withal, can find vent for its energy and vigour in the production, say, of one, two, or, it may be, three blooms. Elaine, a kind well known to gardeners, to exhibitors, and to market men also, will illustrate what I mean. This variety, still the purest white in existence, I believe, when only allowed to carry a few blooms on early crown buds, is a short-petalled, stiff, balled-up sort of bloom that in these days of grace and refinement is little short of repulsive. The same kind when allowed to mature from eight to ten flowers on terminals is one of the most graceful and elegant. Indeed, it not infrequently happens that the most elegant flowers are those from terminal buds. Another well-known white, Souvenir de Petite Ami, is liable to do the same thing, the crown flowers short, stubby, and ugly-looking when the plants carry about three blooms, and most pleasing and beautiful when the plants are allowed a maximum of nine blooms per plant. These, of course, are not the huge exhibition blooms we see so much of, but such as would be 3 inches or 4 inches deep in petal and about 5 inches or 6 inches in diameter, blooms large enough for all purposes of decoration, and such as may be cut with 12 inches or 20 inches of good stem. In growing this variety so, care should be taken not to overcrop, because the shape of the bloom causes the eye to be seen in the centre. This, however, may be regulated by the individual vigour of the plant, and it is a poor one indeed that will not carry half a dozen very fine blooms. Were this item more fully realised and acted upon, it would be the saving of much time and labour in raising and growing stock to produce a sufficient supply of bloom. There are doubtless many others that could be named. In yellows the well-known W. H. Lincoln is wonderfully prolific, yet I lost a season when this plant was first sent out through seeing a plant exhibi-

bited with a single stem and a solitary bloom on the top. My two first plants of this fine yellow carried respectively forty and forty-eight fine blooms each. It must be stated, however, that the one pot had two and the other three cuttings in, but, being rather late, were potted on in this way and flowered in large 8-inch pots. The plants were never stopped, and spread out into bushes nearly 3 feet through, and with attention produced highly creditable flowers. The variety of W. H. Lincoln called "improved," unfortunately re-christened and re-distributed as Wm. Slogrove, is another good free kind, though scarcely the equal of the original, and, of course, differing in the shade of yellow. Doubtless there are dozens more only waiting to be found out, equally good and equally free and prolific, quite apart from those recognised as "decorative." The curious part is that these kinds do not show a proportionate increase in size when the blooms are limited to three. This is well-known in some decorative kinds, and, of course, equally true here. What I find a good guide to work upon is the kinds that are most stubborn on the early crown buds. These not infrequently perfect a fine lot of blooms when allowed a free and almost unrestricted growth. E. J.

STRIKING CHRYSANTHEMUM CUTTINGS.

ROOTING cuttings for another year will soon be in full swing, and the object of this note is to question the mode of procedure pretty generally adopted. I mean putting the cuttings singly into small pots, and afterwards placing them in frames within the greenhouse. This plan has been the cause of a number of failures, especially among amateurs, inasmuch as the little attentions, such as removing damp from the glass regularly, have been neglected and decay of the cuttings has resulted. At the best it is a coddling practice, and often the little plants receive a check when taken from a closed box to inure them to air. It is also a tedious plan, many sorts being about six weeks in rooting. The soil by that time is sour, which causes still further delay in the young plant growing away freely. A first-rate mode is to prepare a shallow bed of light sandy earth in a frame, or, better still, a heated pit where warmth may be obtained if necessary, and dibble the cuttings in about 3 inches apart. Failures are rare with this treatment, and air may be given to produce short, sturdy growth. The trade growers' system of striking the cuttings in shallow boxes has, to my mind, the most to recommend it. Boxes about 18 inches long, 12 inches wide, and 3 inches deep are used. These are filled with suitable soil, the cuttings put in, and a good watering given to settle the earth. They are then placed in any glass structure and frost kept away, the houses in favourable weather being only partially closed. No shading is employed, the leaves therefore flag slightly, but a sprinkling with water prevents undue evaporation, and after callusing, the cuttings begin to pick up, and finally emit roots without having made any apparent top growth. The boxes, being so convenient in size, are then stood on shelves near the glass, where air and light assist stocky development. After all, the quickest mode appears to me the best, and one by this plan may root most kinds under the month during winter. Sorts late in giving cuttings or slow-rooting ones may be placed in a warm temperature, and if removed before the leaves become drawn, make satisfactory progress afterwards.

H. S.

Chrysanthemum Mrs. Barkley. — Mr. Weeks has produced no variety of more distinctive character than is this exceedingly fine reflexed. I hesitate to class it as Japanese, although presumably it is such, because its form is so much more like that of the old reflexed Cullingfordi. The petals are, if short, at least very broad and flat, and they lie out regularly and effectively one over the other. We have had so far no Japanese showing this fine reflexed form

without presenting also a good deal of curl in the petals. The form of the flower is nearest furnished in good early blooms of *Chenon de Léché*, but that is far from being so good a reflexed variety. Would it not be a gain if through Mrs. Barkley and doubtless others of similar form, though diverse in colour, it might become possible to get back the once favoured show section of *Chrysanthemums*, such as Dr. Sharpe, King of Crimsons, Cullingfordi, Chevalier Damage and others, all charming varieties, but elbowed out of existence in the craze for huge flowers? Now Mrs. Barkley gives size as well as form, very possibly it may not be difficult to find even now amongst the myriads of Japanese in commerce a selection of varieties that could be shown as reflexed if a class were established for them anywhere. Certainly all incurved flowers, whether Japanese or not, should be exhibited in the incurved classes, and with these deductions there would still be a myriad of diversely formed flowers to make up the ordinary Japanese section.—A. D.

FLOWER GARDEN.

ERIANTHUS RAVENNÆ.

THIS is a native of Southern Europe, which will tell us that a little straw or leaves as protection during the winter months is desirable, although not exactly necessary if it is planted in a sheltered position. It should be given the full benefit of the sun and thrives best in a well-manured sandy or gravelly soil with plenty of moisture. Planted at the margin of the shrubbery, in the hardy plant border or edging the Lily ponds, its bold form is pleasing, and especially in the autumn do the feathery plumes, carried on strong stalks and waving slightly in the breeze, give life to the surrounding landscape.

Compared with other ornamental grasses, it is equalled only by the Pampas Grass (*Gynerium argenteum*), which, unfortunately, is not hardy in this latitude. Under good cultivation, *Erianthus Ravenne* will attain a height of 10 feet or more. It comes into bloom the first week in September, which is an advantage, as most of our ornamental grasses do not produce their feathery blooms till late in the season, to be enjoyed for only a short time. The illustration shows a clump of twelve plants put out a year ago.—JAS. JENSEN, *Illinois*, in *American Florist*.

Begonias in the flower garden.—Few things have made greater strides of late years than Begonias, and they certainly aid greatly in keeping the flower garden bright for several months in the year. Moreover, the blooms are not easily damaged by wet; indeed, the plants seem to flower more freely and do better altogether in a dripping season. Begonias like a rich, moist larder; therefore the beds should be well prepared in early spring by a liberal addition of well-rotted manure. After digging deeply, a little artificial manure sprinkled on the surface and raked in will assist the roots when the plants are first put out. It is important that the plants be brought on as gently and coolly as possible in spring, so as to secure a hardy, stocky growth. Summer mulching is important for the preservation of moisture in the beds, and also to prevent the soil from being washed away from the bulbs by the frequent and copious soakings needful if the season is hot and dry.—NORWICH.

Himalayan plants.—A great many of these have been introduced to our gardens, but more yet remain apparently which are equally suited to our climate. In Sir J. Hooker's Himalayan journals, abridged edition, vol. ii., p. 65, appears the following: "A great red Rose, one of the most beautiful Himalayan plants, whose single

flowers are as large as the palm of the hand, was blossoming, while golden *Potentillas* and purple *Primroses* bordered the stream." The height at which these flowers grew is not specifically mentioned, but from the contents appears to be between 8000 feet and 9000 feet. On p. 77 the flora on the Zeum River is dealt with. After mentioning the masses of *Rhododendrons*, with strains from which the travels of Sir J. Hooker have so greatly enriched our early summers, he goes on to say: "Primroses were next, both in beauty and abundance, and they were accompanied by yellow *Cowslips*, 3 feet high, purple

plants, for Mr. Wilson's "blue" *Primroses* are in reality a long way off that colour, even when in their best character.—J. J. R.

Japanese Lilies.—Up to the present at least the supply of *Lilium auratum* from Japan has been very limited, and as a matter of course considerably higher prices are realised than has been the case for some seasons past. A grand lot of bulbs of *L. longiflorum* from Japan was disposed of early in the season, since which in the London sale-rooms the different Lilies from that region have not been up to the standard of previous years. The beautiful *Lilium rubellum*, announced



Erianthus Ravenne in a garden in Illinois, U.S.A.

Polyanthuses, and pink, large-flowered dwarf kinds nestling in the rocks, and an exquisitely beautiful blue miniature species, whose blossoms sparkled like sapphires on the turf." Then *Gentians*, *Aconites* and *Fritillaries* are mentioned, with a very handsome giant *Rhubarb*. Possibly the tall "Cowslip" may be what we now grow as *P. sikkimensis*, but the other *Primulaceæ* are apparently not in cultivation. Certainly the "blue miniature" species is not. Possibly the Himalayas may yet give us a real blue in these

for distribution by thousands, does not appear to be a good traveller—at least this year—while I have not seen the grand bulbs among the consignments of the different varieties of *L. speciosum* that one is accustomed to meet with. True, we generally get some splendid Lilies after Christmas, and perhaps this season the late ones will be better than those sent earlier. Where planting has to be done late in the season, these new-year importations from Japan have much to recommend them, for even as late as March the

bulbs are quite firm and in every way in good condition, so that if planted or potted then they can be depended upon to flower well. At the same time, home-grown bulbs will be by the period named in full growth.—H. P.

Single Violets.—I am afraid that not only Violets of the Marie Louise and Neapolitan section, but also the single varieties will have suffered very much through the drought of the past summer, especially where grown in large quantities and receiving only rough-and-ready attention. I shall not be surprised to hear that the produce from open fields is very poor next spring. The new California resists red spider better than most varieties on account of its more vigorous foliage, but no single any more than double variety will escape its ravages in hot, dry seasons unless planted where water can be given and the foliage hosed. The worst of spider-infested plants is that in addition to a poor crop of flowers the runners for next year's planting get infested, and so a bad start is made. I have found single Violets do best for an early crop of bloom in cool brick pits. The plants should stand sufficiently far apart to allow of the runners being pegged into the soil to root some few weeks before being planted out.—N.

THE ADORNMENT OF FOUNTAINS, STREAMS AND POOLS.

THE landscape style, drawing its inspiration from beautiful natural scenes, has in the water an indispensable ornament to its artificial creations which present in harmony of the happiest kind for the mind and the eye natural pictures the most diversified. To combine, in fact, the aspect of a wood, a wooded hillside, a grassy valley, natural rocks, flower parterres, and not to associate with these the stream meandering among the verdure of the fields, the pool slumbering in the plain, the murmuring stream and the noisy waterfall would be to make an incomplete picture to which life would be wanting.

The presence of water gives life to the landscape in whatever form, from its first appearance as a rill murmuring amongst the scattered rocks or gushing forth a foaming cascade, to become further on the capricious stream of a thousand meanderings, creating everywhere in its passage miniature gulfs and tiny promontories, until the point where the nature of the place aiding it forms the tranquil sheet wherein it reposes. So it is with pleasure one loves to contemplate from the source to the pool the charming water landscapes which adorn the garden. The genius of the landscape gardener has been able to create out of a little water the most diversified scenes which these are capable of giving, and that sometimes in a prescribed space. Rocks, grottos, cascades, streams, fountains, fords, rustic bridges are to be found in all beautiful gardens at the present day, of which they are the most charming adornments.

But such water scenes would be incomplete if they did not possess vegetation peculiarly their own to adorn them in a thousand ways, with plants differing much between themselves in their form and mode of life. More than any other part Nature seems to have taken pleasure in embellishing water-places in all sorts of ways; from plants almost alpine, which grow on rocks where the stream takes its rise up to the pool, a whole world of plants disputes for a place in the liquid element. The banks are covered with Irises, Rushes, Menyanthes, dwarf Willows, *Myosotis*, *Alisma*, *Lysimachia*, &c., and among these *Typha*, *Sparganium*, *Acorus*, *Ranunculus*, and *Butomus* push more into the water to form veritable tangles there; whilst Water Lilies, white and yellow, display tranquilly their rounded leaves over the surface

of the water and their cups of alabaster or gold. But if this exuberant vegetation of water scenes is apt to excite the admiration of the poet or the painter seeking Nature in wild spots, it needs, however, a controlling hand when contributing to the adornment of places artificially created. It in effect is a question of how to adorn in the most natural way possible and with the utmost taste water scenes from which it is fitting that nothing be withdrawn of their peculiar decorative element—that is to say, of the part which they play in the adornment of the garden as a whole. Landscape architecture has sought to preserve for the fountain, the stream, the pool their most natural forms; therefore is it expedient not to destroy the harmony of these forms by an exaggerated or inartistic use of aquatic vegetation. It is important also not to hide the beauty of a point of view in the landscape by using plants of too great height. To vary as much as possible, according to the importance of the site it is intended to adorn, the plant life of the water and its edges and to arrange it artistically, such is the rule to be followed in this sort of decoration. And may I be permitted to say here that the vegetation of water places is not always as complete and varied as it ought to be and might be, for very often a pool or a fountain offers no more to the view than a sheet or a riband of silver set in the emerald of the sward instead of having its surface and its margin flecked and edged with flowers.

The marginal embellishment of streams ought to be subordinate to the importance of the subject. Dwarf plants, mostly water plants, and some less spreading surface things have their places marked out in the adornment of little streams, of tiny watercourses, and their margins. Their places are found indicated in the little inlets and capes close to the fords and rustic bridges at the approaches to waterfalls. Other parts similar but more important may be a home for plants of larger size to which more room can be allowed for growth, and some floating but not very spreading species have here a place in the middle of the water, provided they be not too often repeated in the landscape. The adjacent parts of grottos, springs, and waterfalls should be little cluttered with water plants. If there should be high rocks, alpine flowers should adorn these in concert with some shrubby element of the mountains. Further on, among rocks half emerging from or level with the water, the vegetation sees a change again; plants of the marshes and of the bog are here in place together with a whole series of water kinds.

The scheme should be restricted to a few subjects in places that are only partly water; it may multiply, on the contrary, in proportion as the water occupies a larger space and affords more room for the particular plant-life of those places. Water copied from Nature—that is to say, water in all its forms, whether they be called reservoirs, ponds, pools, fish ponds, lakelets, &c.—affords to aquatic flora space for that development which is necessary to the beauty of the most spreading and most vigorous kinds. Properly combined in more restricted spaces, the plant-life may be very varied without profusion, and may include examples of every sort of amphibious species. In water of greater extent, freedom of place is given to the most diversified plants.

On the right choice of species depend all the beauty and variety of water gardening, as knowledge of their native habitats and their preferences is necessary to ensure their good growth. The adornment of any piece of water

may be carried out on the margins by means of water or floating plants, and on the water itself by means of certain surface, or really floating, species which reach their full development on the surface.

The indigenous flora of the waterside, with the addition of some exotics known to us, possesses elements the most diversified in form in plant and flower, imparting to the banks of streams and sheets of water a vegetation as varied as numerous.

But, apart from this special embellishment of water places and their margins, there is another form of adornment which must not be forgotten, which, though no part of the present subject, ought, nevertheless, to interest us, since it contributes to embellish the view of water by planting close to the waterside plants of generally picturesque aspect delighting in cool places. Trees, shrubs, herbaceous plants are used for this purpose. Their use should be governed with discretion, and their presence ought not to destroy the general harmony of the site. It is the work of the landscape gardener to place on the water's edge here the Weeping Willow, the drooping Ash; there the Tamarix and Cotoneasters, whose branches incline gracefully over the banks; Bamboos, Gunnera, Rhubarb, and Fern displaying their luxuriant vegetation on the bright green sward. Numerous are the plants which are fitted to be used in such positions, and by making a right choice of species, according to the object and importance of the site, a second waterside garden may be created with the happiest results. Like all other schemes of decoration, that of water places in our gardens demands good taste in conception if it is to appear to the eye a happy imitation of natural scenes.—JULES RUDOLPH, in *Revue Horticole*.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 13.

THIS, the last meeting of the year, but not the last by one as it pertains to the society's arrangements, was not a large one, but it was, all the same, full of interest. Orchids on this occasion predominated in a marked degree, several excellent groups being staged, notably that from the Burford collection, which was very rich in *Calanthe* hybrids, and another in which *Cypripedium* and other good things were finely represented from Cambridge Lodge. Trade groups came from Chelsea and Enfield. Before the floral committee nothing was of greater interest than the charming winter-flowering Begonias, notably *Winter Cheer*, which is an invaluable plant and right'y named; also *Gloire de Lorraine*, of which the plants were even better than usual. A few late Chrysanthemums, very fresh, were staged, also a splendid assortment of winter-flowering Geraniums from Swanley, which even surpassed those usually sent from that source. The fruit committee had but little to do, which was to be regretted, inasmuch as fruits for the approaching Christmas season might have been made a special feature. The day being a dark and gloomy one, it was not possible to see the exhibits from the colour point of view to the best advantage. The Drill Hall sadly needs redecoration throughout and in rather lighter colours than those now prevailing.

Orchid Committee.

A first-class certificate was awarded to—

CYPRIPEDIUM INSIGNE (Harefield Hall variety).—This is a very large form, the dorsal sepal over 2 inches across, the basal half green, thickly spotted with dark brown, the upper portion white with some large purple blotches at the base, the lower sepal green, thickly spotted with brown.

The lip is also large, yellowish green, suffused with brown. The finely-grown plant carried seven flowers. It came from Mr. E. Ashworth, Harefield Hall, Cheshire.

Awards of merit were adjudged to the following:—

LÆLIA DIGBYANO - PURPURATA, a hybrid derived from the species indicated in the name. The petals are pale rose, splashed with purple on the edges, the sepals also pale rose. The lip, entirely without the usual fringe seen in this section of hybrids, is rich crimson-purple, with the front pale rose. The side lobes are yellow, lined with purple at the base. From Messrs. J. Veitch and Sons.

CALANTHE REVERTANS.—This is, perhaps, the darkest *Calanthe* that has been seen. The flowers are as large as those of an ordinary *C. Veitchi*, the colour being an intense rose-purple. The plant carried a raceme of twenty-four flowers and buds. From Sir T. Lawrence, Burford Lodge, Dorking.

Messrs. J. Veitch and Sons sent a small but choice group. In the back row was a grand plant of *Cymbidium Tracyanum*. *Oncidium pectorale* (finely flowered), *Cypripedium Leeanaum*, a grand plant of *C. insigne* Chantini with seven flowers, several finely-flowered plants of *C. Arthurianum* and its spotted variety *C. A. pulchellum*, *C. Niobe* and *C. Niobe superbum* were also well represented. Several forms of *C. Euryades*, *Dendrobium atro-violaceum*, and *Ionopsis paniculata* were also included. Among the *Cattleyas* were good forms of *Lælio-Cattleya Decia*, *L.-C. Eunomia*, and *Lælia Novelty*. *L.-C. Semiramis* has the intermediate characters of the two parents, while in *L.-C. Frederick Boyle* the sepals and petals are deep rose; the lip rich velvety crimson-yellow, lined with maroon in the throat. *L.-C. Andreana*; *Lælia Omen*, flowers rose, veined and suffused with a darker shade of colour; and *Cattleya Ariel*, which could scarcely be distinguished from *C. Bowringiana*, were also shown. A silver Banksian medal was awarded. Messrs. H. Low and Co. sent a nice group, prominent among which were a dark form of *Cymbidium Tracyanum*, finely-flowered and good varieties of *Oncidium tigrinum*, a grand plant with three flowers of *Lælio-Cattleya Aurora*, *L.-C. Appolonia*, a good form of *Cattleya aurea*, a lovely dark form of *Lælia Goldieana*, *Calanthe Veitchi alba*, and a finely-flowered plant of *Sophronitis grandiflora*. The *Cypripediums* included most of the hybrids and species flowering at this season. A silver Banksian medal was awarded. Messrs. F. Sander and Co. sent a small group, consisting of finely-flowered *Oncidium*s, grand forms of *Cypripedium Leeanaum*, and numerous hybrids of the *Cypripedium* family.

Sir T. Lawrence was awarded a silver Flora medal for a group of most interesting *Calanthes* and *Cypripediums*. The most remarkable among the *Calanthes* was a batch of exceptionally dark forms of *C. Veitchi*, which were in striking contrast to the rosy pink flowers of *C. Victoria Regina*, next to which was arranged a batch of the pure white *C. Veitchi lactea*, which showed up the rich colour of *C. burfordensis*. *C. Bella*, with its dark rose-tinted flowers and rich purple disc on the lip; *C. versicolor*, pure white, with a bright rose disc; and *C. amabilis*, a distinct form, rose, with a white disc, were also worthy of note. Among the *Cypripediums* were beautiful forms of *C. Leeanaum*, the variety *C. L. giganteum* being exceptionally fine. *Odontoglossum Coradinei* with ten flowers and buds, and *O. triumphans-crispum*, which resembled a yellow-ground form of *O. Wilckeanum*, were also shown. Mr. R. J. Measures was also awarded a silver Flora medal for a large group consisting of numerous *Cypripediums* of the better forms of *C. insigne*, which included *C. i. Sanderi* with two flowers, *C. i. Ernesti* with three flowers, *C. Wottoni* (*C. callosum* × *C. bellatulum*), a seedling (*C. callosum* × *C. leucochilum*) resembling *C. Wottoni*, the seed of which was sown in January, 1896; *C. Allanianum superbum*, and numerous forms of *C. Leeanaum*. *Vanda Amesiana* was also included.

The most prominent among the *Masdevallias* were *M. ignea*, *M. calax*, *M. pachyura*, and several plants of *M. tovarensis*. *Pleurothallis punctulata*, with its green and purple flowers, and *P. conanthera* were also represented. Among the *Oncidium*s were some finely-flowered plants of *Oncidium cheiroporum*. *Dendrobium endocharis*, *Cattleya labiata*, *C. Miss Williams*, *L.-C. elegans Schilleriana*, *Cymbidium Winnianum*, and finely-flowered plants of *Sophronitis grandiflora* were also included. Captain Holford, Westonsbirt, Tetbury, was awarded a silver Banksian medal for a collection of cut Orchids, consisting of fine flowers, grand in form and substance, of *Cypripedium Leeanaum*, *C. Charlesworthi*, and good varieties of *C. Niobe*. Among the forms of *C. insigne* was the yellow *C. i. Dorothy*. *Lælia anceps* and *Cymbidium Tracyanum* were also well represented. Mr. G. Robertson sent *Cymbidium Winnianum*, and Mr. de B. Crawshaw showed a finely-spotted *Odontoglossum Ruckerianum*. Mr. H. A. Burbury sent *Lælia anceps Burburyana*, a large form with an exceptionally dark lip, and Mr. W. C. Walker, Winchmore Hill, exhibited *Lycaste cruenta* and a fine plant of *Dendrobium aureum*, for which a cultural commendation was awarded. Mr. G. W. Law-Schofield sent a dark form of *Cypripedium Norma*. Mr. H. Little showed a fine group of *Cypripediums* in variety, the most prominent being *C. Lachmee* (*C. Veitchi* × *C. ciliolare*), one of the best hybrids of this section, petals spotted with purple. *Vanda cœrulea*, *Cattleya Percivaliana*, *Lælia anceps*, and *Dendrobium Phalaenopsis* were also well represented. A bronze Banksian medal was awarded. Sir W. Marriott, Down House, Blandford, sent a seedling *Lælio-Cattleya*, the result of crossing *L.-C. elegans* and *C. gigas*, which resembles *L.-C. Henry Greenwood* to a great extent. He also sent a new *Cattleya*, a cross between *C. Mendelli* and *C. gigas*, which the committee desired to see again.

Floral Committee.

A first-class certificate was awarded to—

ASPARAGUS SPRENGERI COMPACTA.—A distinct and valuable addition. In this the habit is less trailing than in the others; the outer branches, which are longest, droop a foot or 15 inches, and gradually diminish in length till those of the centre are not more than 6 inches long. Each frond gracefully droops over the former one in the most pleasing manner, and this, coupled with the rising fronds in the centre, renders it a most attractive plant. In the shade of green the whole plant is much darker than the type. This variety is said to have occurred in a batch of seedlings. From Mr. H. B. May, Edmonton.

The winter-flowering zonal *Pelargoniums* that were staged by the Messrs. Cannell and Sons, Swanley, were in marked contrast to the usual gloomy surroundings of the Drill Hall. On such a day, with fog hanging heavily overhead, these brilliant winter flowers appeal to one by their brilliancy alone. The group contained some fifty bunches or thereabouts, and in almost as many varieties, few duplicates being apparent. The following are the most conspicuous: *Niagara* and *Snowdrop*, very pure white, both of good form; *Mrs. Ewing*, white and pink; *Mark Twain*, rose-salmon; *The Sirdar*, a novelty with fine blossoms of crimson-scarlet; and *Mrs. Simpson*, white, with a centre of salmon fairly well defined. *W. E. Corden* and *Soldier's Tunic* are in every way first-rate scarlet shades, that, considering the form of the flower in conjunction with the colour, will take some beating. Then in the salmon shades where this is mingled with white, *Ian Maclaren* and *Duchess of Marlborough* are very fine, the latter being of the largest size also. *The Khalifa* is a salmon-self, Mr. P. Roath is salmon and deep salmon, and *Crabbe* is a salmon-scarlet surpassing all else in brilliancy of tone and fine form. Of quite a different pattern is *Rudyard Kipling*, a sort of carmine-magenta shade that is more distinct than beautiful. The whole bank was interspersed with small Ferns, and formed a very brilliant display at this season.

At one end some vases were filled with *Chrysanthemum Miss Harvey*, a decorative kind of rather small size, having the petals twice or thrice forked. It is a pretty kind, and for small vases or the like would be useful. A silver-gilt Banksian medal was awarded. Mr. Wells, Redhill, brought a fine lot of his favourite flowers, probably the last display for the season. A few of these deserve a passing note for their good form so late in the year; *Sunset*, a pleasing amber-gold, quite fresh-looking; *Snowflake*, very pure; *Redhill Beauty*, soft yellow, perhaps a trifle too pale under artificial light; *Mrs. W. Butters*, a pretty decorative with forked petals; *Nellie Pockett*; *Mrs. C. Brown*, white, and good for the season; and *Mme. Philippe Rivoire*, white, and rather reflexed in character. A fairly good yellow bronze is *Lucy A. Thompson*, and a good incurved Japanese among yellows is *Georgina Pitcher*. Of a similar shade is *Mons. Veillard*, but of a more reflexed type. *Mme. H. de la Rocheteire* is a greenish white bloom, but the habit is rather weak and thin, otherwise the flower is the best of its class we have yet noted (silver Banksian medal). Mr. H. B. May, Edmonton, had another of his fine exhibits of the well-known winter-flowering *Begonia Gloire de Lorraine*, the plants filling the entire side of a table through the centre of the building. Many of the examples were in reality bush-trained specimens, into which considerable labour had been put. From a cultural point of view the plants were excellent. The largest plants were close on 20 inches through and about the same in height. Thinly disposed throughout, and with a variety of Ferns interspersed and forming a groundwork, the plants appeared at their full worth. Examples of *Adiantum Farleyense* drooped gracefully from raised pedestals, the several forms of *Asparagus Sprengeri* occupying similar though perhaps loftier positions. Of this plant, the type included, there were three forms, all very distinct, viz., the type, with its long trails freely branched as it were; *A. S. densissimus*, the trailing shoots of which depend to about half the length of those of the first and of a heavier, densely-set habit; and the most recent addition, already described (silver-gilt Banksian medal). Messrs. James Veitch and Sons, Ltd., Chelsea, had fine batches of their new winter *Begonias*, *B. Ensign*, *B. Myra* and *B. Winter Cheer*, the two first paling considerably beside *Winter Cheer*. This is indeed all its name implies, a really bright and cheerful flowering plant for the winter season. The flowers, too, are abundant as well as large, the slightly drooping character of the blossoms adding that touch of gracefulness that in many plants is wanting. A specimen of the hybrid *Rhododendron Exquisite* was also staged. This kind produces a handsome truss of rather deep canary-coloured flowers, the latter large and very showy (silver Flora medal). From St. Albans Messrs. Sander and Co. sent handsome specimens of *Acalypha hispida* (*Sanderiana*), some of which were 3 feet to 4 feet high, with a score of the richly-coloured inflorescences, all beautifully coloured from base to tip. It is a striking characteristic of this wonderful plant that these brilliant appendages put on their colour as they emerge from the axils of the leaves, even those of an inch long at once assuming the fine colour they so long retain. This is a curious as well as interesting fact. A dozen fine plants of this were staged on this occasion. Other things included *Acalypha Godseffiana*, *Dracæna Godseffiana*, the dark green leaves freely spotted with white, and *D. Sanderiana*, of which some very beautiful and effective plants were sent. A couple of new Palms also in this group were *Linospadix Petrickiana* and *Licuala Jeanencyei*, the latter a dwarf and sturdy species, the spreading fronds composed of ten openly disposed and abruptly blunt divisions (silver Banksian medal). Mr. C. A. Pearson, Frensham Place, Farnham (gardener, Mr. Prewitt), had a small group of mixed plants, such things as *Ericas*, *Begonia Gloire de Lorraine*, *Dracæna Sanderiana*, a few Palms, some

small bits of *Cypripediums*, Ferns, &c. A white Japanese incurved *Chrysanthemum* named Christmas Favourite came from Mr. Godfrey, Exmouth, the variety being very pure and having the large, broad petal of Kentish White. The flowers are neither large nor very full to the centre. From the same source came Queen of Pinks, a spreading flower, with narrow florets of a magenta-lilac shade. A few plants of *Primula sinensis* vars. calling for no special comment came from Mr. H. Eckford, Wem, Salop, while to Mr. A. Kingsmill goes the credit of being the exhibitor of the most minute yet complete flower on this occasion, viz., a scape bearing a solitary blossom of the inconspicuous green Daffodil, *Narcissus viridiflorus*. The scape is about 6 inches long, the segments of the perianth, perhaps, three-quarters of an inch long, and the exceedingly small corona about a quarter of an inch across.

Fruit Committee.

Only some half-dozen exhibits were staged, and these of no great merit. From Mr. W. Shingler, The Gardens, Melton Constable, Norfolk, came a nice bunch of Grapes. This was described as a seedling, the result of crossing Lady Hastings with Gros Colman, but the committee did not see any difference between this and the Gros Colman. A seedling Apple named Paroquet came from Mr. Ross, Welford Park Gardens, Newbury. It was a very nice-looking fruit, highly coloured, but not in the best condition, being over-ripe. Seedling Apples also came from Mr. J. Butcher, The Nurseries, South Norwood. A very good dish of Hoary Morning came from Mr. A. Dean, Kingston. A nice basket of *Oxalis crenata*, an Artichoke-like vegetable with pink-coloured tubers, came from Mr. Herrin, The Gardens, Dropmore. This will be a superior vegetable to *Stachys tuberifera*, being larger and better shaped, and Mr. Herrin will do well to show it in a growing state. Miss Breton, Forest Oak, Sandhurst, sent four roots of Caroons, but very small.

NOTES OF THE WEEK.

Iris Histrio and *Iris alata* are already in bloom here under glass but without heat, also *Lithospermum rosmarinifolium* and *Oxalis lobata*.—H. SELFE-LEONARD, Guildford.

Hessia spiralis.—This is probably one of the smallest of flowering plants, and one equally small in growth. The dainty white and pink blossoms, some half dozen in a scape, are as minute as they are interesting.

Senecio Galpini, with striking heads of intense orange, would create a most effective blaze of colour were the plants more generally free-flowering. As it is, however, the solitary flower-heads render the plant quite conspicuous, and with its blue-grey leaves the attractiveness is enhanced.

Rhododendron Exquisite.—This is probably one of the finest of the recent hybrid forms belonging to the javanico group, the large handsome blossoms being bell-shaped and widely reflexed. The tints is also large. In colour the flowers vary from rather deep canary to almost chrome-orange, the exact shade being by no means common among winter-flowering plants.

Chrysanthemum Christmas Favourite.—A white kind bearing this name was among the exhibits at the Drill Hall on Tuesday last. Of the habit of the plant or its freedom to bloom we know nothing, but of the flower alone it may be noted it was very pure, the petal firm in texture and broad, incurving to the centre. It is of a type intermediate between the old Lady Lawrence and Kentish White.

Plumbago rosea.—As a pot plant in the warm greenhouse at this season this is always attractive. In these days, however, when the demand for valuable flowers for cutting is daily on the increase, plants of this type, the flowers of which possess little value when cut by reason of their so quickly falling off, can be afforded but little space. Otherwise the dainty sprays and the richly-coloured flowers should be in demand.

Narcissus viridiflorus.—In spite of its inconspicuous character, a good deal of interest centred

around the solitary example of this singular species brought on Tuesday last by Mr. Kingsmill to the Drill Hall. Only a single-flowered scape was exhibited, the predominant colour green, and, of course, not at all showy or attractive to the naked eye. (Otherwise, however, there is much to admire in this curious flower.)

Ixora incarnata.—This somewhat rare species was noted recently at Kew, where a small example was flowering. In its general character the species in question is very distinct from most kinds; indeed, when not in flower, a casual observer may take it for one of the Javan *Rhododendrons* were it not for the temperature in which the plant is found. The flowers individually possess the curious habit of completely reflexing the divisions of the corolla, thus giving the plant a rather singular appearance.

Name wanted.—In reply to "G. S. S." it is probable that the plant of which he has a sketch from Ningpo is *Pinellia tuberifera*, a pretty little Aroid found widely distributed in N. China and Japan. It is figured in vol. xix. of Somokou Zousett's "Flora of Japan," and I enclose a tracing of Somokou's figure. The slender leaf and flower-stems spring from a tuberous root-stock, and the leaf-stalks produce small tubers in the way "G. S. S." describes. Various species of *Amorphophallus*, *Tacca* and other Aroids produce tubers on their leaf-stalks.—F. W. BURBIDGE.

Two fine Violets.—Messrs. Isaac House and Son, Coombe Nurseries, Westbury-on-Trym, Bristol, send us some fine blooms of two Violets. In the variety Princess of Wales the flower-stalks are from 6 inches to 8 inches long and almost erect, the blooms as large as those of a miniature Tufted Pansy. In Italia the blooms are not quite so large, the leaves, too, being smaller. We understand that as grown by Messrs. House and Son, Italia is far more free-flowering than Princess of Wales. Both are well worth adding to a collection including also La France, with immense flowers of a rich blue colour.

Begonia venosa.—Grouped together in batches of half a dozen plants, this species produces a fine effect by reason of its distinct and well-marked leaves. In general character of growth and habit this Brazilian *Begonia* is widely removed from most other kinds, if not, indeed, from all. Several plants of it are now flowering at Kew, where a really extensive collection of species and hybrids affords a good array of blossom and a far-reaching interest throughout the year. The flowers are white and somewhat small for the size of the plant. The plant is attractive by its foliage, the surface of which is covered with a short dense tomentum.

Euphorbia myrsinites.—The numerous long prostrate growths of this plant, covering as they do a large space superficially, render it attractive now that flowering plants in the rock garden are scarce. At such times the value of this and similar subjects is apparent, the more so because the glaucous blue-grey tone of the leaves is not a thing of to-day—it is permanent even in the oldest stems. The plant is one of a few of its class in this respect, and, being readily accommodated in ordinary soil, deserves to be more freely cultivated. Seeds, where these can be obtained, should be sown early to make good plants, or the young shoots slipped off in spring root freely without much moisture.

Nerine undulata.—It is doubtful whether any species of this genus longer retains its beauty than this. It is so light and elegant in the general formation of the head of bloom as to make it worth attention as a cut flower, for which purpose the slender stems are well suited. A solitary example gives but little idea of its beauty compared with, say, a group of half a dozen or more pots with three bulbs in each. As the flower-stems rise to nearly or quite 18 inches high, the colour as much as the wavy character of the perianth segments is seen to advantage. A plant that remains in good condition for nearly or quite two months of the most sunless period of the year should merit attention.

Galanthus macedonicus.—Under this name I received several years ago from Italy a Snow-

drop which comes into bloom early in December. The name appears to have no authority in its favour, but for convenience I grow it under its catalogue title. It is evidently one of the varieties of *Galanthus nivalis*, and differs from the Albanian Snowdrop, to which I referred on p. 479 of THE GARDEN of December 10, in its greater vigour and in the considerably deeper green of the flower-stems and spathes. Although more vigorous in growth, it does not increase so quickly as the Albanian variety, but this may perhaps be due to the drier position it occupies in my garden. The flowers are about the size of those of our ordinary Snowdrop.—S. ARNOTT.

Zauschneria californica.—I would not have Mr. Arnott despair of flowering this in the north, though the general failure of the plant to bloom there is notorious. It must be a cold or short season in the south when it fails there, and I suspect that the single failure in Cornwall which he reports was casual and accidental. Here (in Surrey) the plant is a great stand-by for a late red among dwarf or rock plants. As such, indeed, I know not its equal. If he thinks it worth the trouble (as I should), I can scarcely doubt he would succeed by bringing on plants in pots under glass and planting or plunging them out in June, for, as he has doubtless found, the plant is quite easily grown, and the cause of the failure to bloom is simply the comparative coolness and shortness of the northern summer. There are at least two varieties of this plant, both worth growing.—H. SELFE-LEONARD.

—There is one way at least of growing this distinct plant effectively, and that is on a wall. If its roots are planted in good fibrous loam and pushed into holes on the face of a sunny wall it flowers splendidly in the late summer or autumn months. I laid a few masses of its roots on the top of a brick wall and covered them with road scrapings, and the result was also satisfactory, as planted in deep, rich, moist soils the plant grows freely enough, but rarely flowers well, and a friend of mine who had seen the plant wild in California once told me he had never seen it so bright and showy as one August day on the face of the river wall at Mount Usher, in Co. Wicklow.—F. W. BURBIDGE.

—My experience of the above plant is most satisfactory. Four years ago I planted two small plants out of 3-inch pots in a steep rock garden facing south at Malvern. After dividing the roots, two months later, I had seven large plants, all of which flowered profusely in the autumn. The soil was originally a stiff red clay, but I removed the surface and rebuilt the rockwork, adding new soil. The roots got down into the clay and ran to a great distance. I have since given away several roots, all of which have flowered well. I believe that the plant requires a dry, sunny situation. I saw plants at Mr. R. Smith's Worcester Nursery which stood the hard winter four years ago, and grew in the following summer into great bushes covered with blossom.—S. H. BOYLE.

Anomatheca cruenta.—In a light sandy soil and mild climate near the sea I find no difficulty in growing this charming little bulbous plant, but even in cold, heavy soils it may be grown by a little preparation of the soil near the walls or even on gravel walks in front of hothouses, &c. The plant seeds so freely and the seeds grow and flower so quickly, that it is well worth growing in pots for cool greenhouse or even window decoration. But in most gardens it would be found possible to cultivate it from bulbets or seeds planted or sown in shallow sandy soil in any sheltered nooks or corners near the warm plant houses or vineries. It is one of the neatest, brightest and most distinct of all Cape bulbous plants, and should find a place in pots, on rock-work or borders more often than it does now.—F. W. B.

Callicarpa purpurea.—Few stove plants at this season of the year are more showy than this. It is well worth growing not only for its value in the greenhouse, but equally so for its use in

decorations generally. In many an odd corner where Palms and Poinsettias are now used for effect this striking subject should appear to advantage. For a long time the berries retain their rich colour, which should be borne in mind by those requiring showy plants of easy culture. Plants of two years' growth and upwards when pruned rather hard in spring should be kept some time in a close, warm house to develop growth and flower, from which time the usual summer heat in such places is in most cases sufficient. As the autumn approaches, the fruits, which occur plentifully in axillary clusters, put on their colour and remain attractive for some weeks.

Hybrid Cypripediums.—The contribution from Westonbirt of so remarkable a series of hybrid Slipper Orchids was freely commented on at the Royal Horticultural Society's meeting on Tuesday last. The manner of setting up the blooms was also the subject of comment. Indeed, it was unfortunate that what was obviously so valuable an assortment should not have been disposed to advantage. As it was, the reference tickets, as also the blooms in some instances, were so huddled together that an inspection was well-nigh impossible without a complete sorting of the whole. Much of this could have been avoided by expending another half hour in their arrangement and using smaller bottles. In this way visitors would have been afforded an opportunity of comparing the many beautiful things the collection contained.

Mr. Edward Whittall's new Snowdrop.—Almost coincident with the appearance in THE GARDEN of December 10 of Mr. Burbidge's note regarding Mr. Whittall's capture by brigands and subsequent release the first flowers of our good friend's new Snowdrop opened here. Out of a large number of bulbs, only two have as yet flowered. It is also unsafe to pronounce a definite judgment upon Snowdrops the first season after replanting, especially if they have been dried off. There is, however, sufficient evidence to form an opinion that this Snowdrop will justify Mr. Whittall's statement that it is the finest form of *Galanthus Elwesi* he has yet seen. The flowers which have opened and the many yet to come bear out this, and the broad, bold leaves and tall growth promise well for the future of this new Snowdrop. I have often regretted that Mr. Whittall's name has not as yet been more definitely attached to the Snowdrop, even if only to a variety of *Elwesi*'s species. An opportunity is now, I think, afforded us of doing so by calling this *Galanthus G. Elwesi* var. *Whittalli*.—S. ARNOTT.

Colchicums not flowering.—While the Meadow Saffrons are, as a rule, free bloomers, there are, I believe, some which are often unsatisfactory in this respect. Of these I think C. Parkinsoni, which is also found under other names, is among the worst. It does not flower any better in poor than in rich soil, and what one would consider a good medium gives little better results. One generally finds that in a rich deep soil the flowers of the Meadow Saffron are not only larger, but also much finer in colour, and I know several gardens with soil of this description in which there is no scarcity of blooms. Mr. Wood has given a good explanation of the reason why the Colchicums fail to bloom in some gardens. In such his remedy might be practised. Not only do the Meadow Saffrons look better in a dense mass, but the closer they are the less apt are they to be blown down—one great cause of the short-lived beauty of the flowers. In removing, too, one should be careful as to the precise time. This operation ought to be performed when the leaves turn yellow. If left until later it is almost impossible to remove the deep, closely-packed corms without serious injury.—S. ARNOTT.

Selaginella denticulata.—The hardness of this pretty Selaginella is a subject of interest to many who use plants of similar character as carpets for bulbous or taller herbaceous plants. One feels inclined to agree with Mr. John Wood in his interesting and practical communication in

THE GARDEN of December 10. Here I have found *S. denticulata* hardy for some years, but only in certain conditions, depending principally upon the character of the soil, and also upon the establishment of the plants. Those which have succeeded have been on very dry soil and in fairly sheltered positions. They have also come generally from pots or boxes of seedling bulbs raised in the greenhouse and planted out without disturbing the ball or square of soil any more than could be avoided. The most flourishing patch I have is one in a shady place. It originated from a few young plants which have appeared on the surface of a box of seedlings of *Galanthus Elwesi*. The box had become decayed when the Snowdrop bulbs were but small, and many were too minute to handle with safety, so that the box was taken to pieces, leaving the oblong of soil undisturbed. I think those who wish to try this Selaginella in the garden would do well to plant it out of a pot without disturbance of the roots.—S. ARNOTT, *Carslithorn, by Dumfries, N.B.*

Iris stylosa.—This Iris, though it has for some two or three weeks been flowering in sheltered places, gives promise at the present time of a good season of its delicate blossoms. Nothing is more choice or beautiful in the hardy garden at the present moment than this where it lies snugly at the foot of a sunny wall. Here a certain dryness for its roots, the result of contact with the surrounding masonry, may have something to do with the perfect health and the certain freedom of flowering that appear inseparable from these plants. Giving little trouble and furnishing a supply of the delicate and pretty blooms at such a time would appear ample recommendation for planting similar positions freely with the same subject. Not only does the plant grow and flower, but there is evidence that in such positions the foliage escapes the cold and cutting winds that in the open frequently play such havoc with the plants. Such a check to foliage could scarcely be sought else than a check to its flowering. By planting in the position suggested much of this may be avoided, in the warmer counties at least. If more is needed to be told of this beautiful winter flower, it may be found in the variation from the original, the variety *speciosa* and the lovely white kind adding even greater beauty to the species above noted.

Scilla italica alba.—My note on this variety of the Italian Squill has not only been the means of giving me some information regarding its whereabouts, but, through the kindness of my correspondents, of giving me the opportunity of growing it again—an opportunity of which I shall be delighted to avail myself. It appears to have been one of the many treasures in the garden of the late Rev. John Nelson, of Aldborough, and it was from this source that the bulbs I have heard of have come. As I mentioned in my note in THE GARDEN of December 3, this Squill is figured in Maund's "Botanic Garden." In the plate the blue and the white varieties are both shown, and the writer of the accompanying letterpress says: "We owe the possession of both varieties, the blue and the white, to the Rev. W. Bree, of Allesley. The latter is, however, very rare in cultivation." About fifteen years ago, in giving it to a friend of his who has kindly communicated with me, Rev. Mr. Nelson said, "I believe this to be unique." From this source it was sent to Kew and one or two other public gardens. A lady gardener well known to all interested in hardy flowers, and who has most kindly written me, procured her bulbs of the white Italian Squill when Mr. Nelson's plants were dispersed, and it was from her stock that my only bulb came, but by way of a nursery in Holland. It may be of interest to some to know that the late Mr. Niven, of Hull, who edited the last edition of the "Botanic Garden," remarks with reference to the plate of *Scilla italica*: "The foliage, as here represented, is decidedly narrower than that of the plant we now cultivate." One is disposed to agree with Mr. Niven on this point. The flowers, although small, are faithfully represented.—S. ARNOTT, *Carslithorn, by Dumfries, N.B.*

PUBLIC GARDENS.

Gift by Lord Ellesmere.—The Earl of Ellesmere has presented the Worsley District Council, which has jurisdiction over a portion of his Lancashire estate, with a large open space known as Roe Green, several acres in extent, to be used as a pleasure ground. Lord Ellesmere, in conjunction with the trustees of the Duke of Bridgewater, is spending between £300 and £400 in enclosing the ground.

Open spaces in London.—At the monthly meeting of the Metropolitan Public Gardens Association, held at 83, Lancaster Gate, W., the Earl of Meath, chairman, presiding, progress was reported with regard to the laying-out of the Paragon, New Kent Road, and Albion Square, Dalston. It was agreed to plant trees in Upper Street and Hamerford Street, Islington, and to offer trees for certain sites in the Strand and the City. It was agreed to offer seats for the churchyard of St. Andrew Undershaft, to memorialise the Metropolitan vestries and district boards respecting tree lopping in London, to urge the Hornsey District Council to preserve the Queen's Wood in its natural state, to continue negotiations with respect to the proposed opening of Finsbury Circus, Christ Church Churchyard, Blackfriars, and other spaces.

OBITUARY.

MR. W. PRAGNELL.

WE regret to announce the sudden death, on Tuesday, December 6, at the age of sixty-one, of Mr. W. Pragnell, who has been gardener at Sherborne Castle, Dorset, for forty-five years, having succeeded his father in that position. He had visited Sherborne in the early part of the day, and on reaching home suddenly fell forward and expired, striking his head against the table in the fall. Many of the readers of THE GARDEN will remember Mr. Pragnell as a prominent exhibitor and judge, and he at one time used to be a frequent contributor to the gardening papers. Visitors to the Royal Horticultural Society's meetings in the old days of South Kensington may remember the fine collections of fruit and vegetables he used to show. He leaves a widow, four sons, and two daughters. The funeral took place on Friday at Castleton, and was largely attended by the residents and friends in the district, where he was held in the greatest esteem.

The weather in West Herts.—During the first twelve days of the present month there did not occur a single unseasonably cold day or night. Since then the days have been again warm, but on the two nights the exposed thermometer showed 6° of frost—by no means unusually low readings for the time of year. At the time of writing the soil is about 4° warmer than the December average at 1 foot deep, and about 6° warmer at 2 feet deep than the mean for that depth. Since the beginning of the month 1½ inches of rain have fallen, which is about a seasonable quantity for the first half of December. There has again been a poor record of sunshine, the average duration for the last four days being less than half an hour a day.—E. M., *Berkhamsted*.

BOOK RECEIVED.

"Rules for Judging." Second edition, revised. Royal Horticultural Society, 117, Victoria Street, S.W.

Names of plants.—*Spring Hill*.—1, *Helleborus altifolius*; 2, *Oncidium crispum*; 3, too shrivelled; 4, impossible to name from leaf only.—*J. Batchelor*.—*Asparagus Sprengeri*.—*M. C.*—2, *Cotoneaster frigida*; 3, send better specimen.

Names of fruit.—*W. Ingram*.—3, not recognised; 6, Margil.—*M. C.*—Dutch Medlar.

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ORCHARD AND FRUIT GARDEN.

PEACHES ON NORTH WALLS.

I CANNOT recall another instance in which north walls have been recommended for the growth of Peaches, and thus I am somewhat surprised that in "G. W. S.'s" case (p. 462) it should have been sufficiently remunerative to recommend it to others. There is a certain amount of caution in the adoption of such cool sites given by "G. W. S." which I certainly think due to the case in point, but, not having proved the possibilities of Peach-growing on north walls, I am not prepared to say what some soils and gardens may be equal to. One thing I am quite sure of is, that Peaches would be a signal failure in such a position in these gardens. This I can ascertain from their condition on a more sunny west wall. I would, therefore, not venture to waste trees, valuable space, and time in attempting to grow them in cold soil and without the aid of sunshine to mature their growth. "G. W. S." observes that there is great gain in having Peaches for four or five months from open walls, and says this can be accomplished from more suitable aspects if the kind of tree is studied. It is easily possible to have ripe fruit from early, mid-season, and late kinds from June to the end of November from a south wall, if there is enough space at disposal for planting a sufficiency of trees and in variety. East and west walls afford suitable sites for Peaches in some gardens, this allowing of a more extensive planting, and where such is the case, what need is there for attempting to fill spaces on a north aspect, which can be utilised with much greater certainty for Cherries (dessert and Morello), Plums, Pears, or even late Gooseberries grown in cordon fashion? From a south wall, Sea Eagle and Princess of Wales are by no means to be despised when perfectly developed and allowed to ripen fully before being sent to table. I think both the latter varieties are often condemned from a flavour point of view, simply

because they are used too quickly. Gathered and placed for a few days in the fruit room in a wool-lined box, Sea Eagle becomes decidedly melting and rich in flavour; gathered direct from the tree and sent to table, quite the opposite happens. For this reason I do not see any justifiable ground for planting midseason sorts, such as Royal George and Stirling Castle, on a north aspect simply on the remote chance of bringing them into competition with the late ones. At Heywood, Mr. Robinson for several years past has grown some exceedingly fine Peaches on an open wall, Sea Eagle, Barrington, and Princess of Wales comprising the late varieties planted. There has not been the slightest suspicion of failure during the past six years, though the protection given is only an overhead glass coping. Each evening following a hot summer's day the trees are well syringed, insect life suppressed before any injury is done by them, and summer and winter pruning and nailing carefully carried out. This, with an occasional dressing of artificial manures to the surface of the border, is the treatment given and from which such excellent results are obtained. For early and midseason use there are Condor, Grosse Mignonne, Dymond, and Violette Hâtive, varieties that give a long season of Peaches that are not surpassed in any respect by those grown indoors. If to these are added the earlier Waterloo or Early Alexander, a period of four or five months would be covered in which ripe fruits would be easily obtained from a south wall. It is true that these positions are frequently occupied by fruit houses, and then the grower of outdoor fruit must necessarily select east or west aspects, which, though in some, are not always so satisfactory as the south wall in every case. It is, I think, very clearly proved that a north wall is unnecessary for maintaining a long succession of outdoor Peaches.

W. S.

Peach Royal Charlotte.—This Peach seems to have become almost extinct. I know of only

one tree, and that is in a Peach house in a garden in Lincolnshire. The gardener, who has had a long experience in Peach growing, considers Royal Charlotte the best all-round variety he has ever grown. Several years ago the tree lost some of its branches and seemed as if it was dying, but it was cut hard back to within a little distance of the stock, which induced it to break into a fresh growth, and it is now as profitable as ever again. In size and general appearance the fruit favours Royal George, while the flavour is delicious.—J. C.

Grape West's St. Peter's.—This is a really useful Grape of excellent flavour, and, where good quality is esteemed, well worth growing. It is by no means a large-bunched or berried sort, but in this respect just the thing for table. It likes a little heat, and I have grown it well in a mixed vinery with Alicante, Lady Downe's, and Trebbiano, where it hung in good condition till the new year. Its keeping is one of its chief recommendations, as it comes in useful when the Black Hamburgh is gone. West's St. Peter's was a favourite Grape with the late Mr. William Thomson. It is strange it is not more generally grown.—C. N.

Syringing Vine foliage.—In ordinary cases red spider, if taken in time, may be eradicated by sulphur fumes. In high-lying gardens, however, and where the soil is light and the subsoil gravel, I have known the pest to be almost invincible, especially if the vinery had large panes of glass in the roof and little woodwork. You might sulphur one week and spider appear again the next. In such an extremity there seems to be no alternative but syringing the foliage with soft water. If the laterals are arranged 18 inches apart a careful man can do the work without much bunch disfigurement.—C.

Apple Bramley's Seedling.—At p. 430 Mr. Prinsep has a note on this Apple. His experience with it exactly corresponds with mine. It is one of the largest Apples I know. In an orchard recently under my charge it was the largest and healthiest tree of any, but in fourteen years it only bore one crop, and that a poor one. A near neighbour of mine had a similar sized tree just as unproductive. My tree was growing in light soil. Mr. Prinsep's soil is heavy, so that

it seems it is shy in any kind. No fault can be found with the individual fruits, which are large, and retain their weight until late in the season. It is a capital baking Apple, but needs a good deal of sugar to render it palatable.—B. S. N.

Pear Jargonelle.—There are varying estimates placed on the merits of this summer Pear, some setting a high, others a low value on it. Personally, I think it has been much over-rated, and only in exceptional cases have I found it deserving of much favourable comment. It is a Pear I should not plant except under special request; its shy-bearing on a wall and ugly gait in growing as a pyramid or bush certainly are not strong recommendations in its favour. One of the few places where it succeeds is at Marston, Frome; in the heavy soil there, and with unlimited head-room it seems to have found an ideal home. Restricted in branch, it is very light cropping with me—in fact, not worth the space occupied.—S.

Plum Pershore.—Mr. Crook asks whether I have seen the above Plum doing well out of the midlands. I have not, but I learn on good authority that in some districts in Kent it grows freely and crops heavily. I presume Mr. Crook has the true variety, as it is strange that a Plum which carries such heavy crops in the market gardens of Worcestershire should refuse to do with Mr. Crook in his favoured climate, although doubtless soil and situation have a great influence on certain sorts of Plums. Mr. Crook mentions Goliath. I was under the impression that this Plum was extinct. I remember my father having a fine tree on an east wall at Thorndon Hall, Essex, many years ago. The fruits were very fine and valued for cooking.—J. CRAWFORD.

Apple Royal Jubilee.—This was one of the most noticeable Apples at the recent show at the Crystal Palace, the fruits being very fine, with a clear lemon skin. It is one of the best cooking fruits we have, its season being from November to March. It is not much known. If I mistake not, it was raised in Kent a few years ago, and is certainly worth room in all gardens where good keeping Apples are in request. It is also very late-flowering, so that the blooms often escape the late frosts. I am much pleased with the way young trees crop. It makes a strong growth, but not too gross, and is an excellent variety for heavy soils or exposed positions. It also crops very quickly when worked on old stems.—G. W.

Peach Early Silver.—In the southern parts of the country this Peach used to be a great favourite, and recently I saw some trees covering much wall space and that had produced some splendid crops of fruit. This Peach needs a warm soil. Few Peaches grown on the open wall are superior in flavour, the fruits being large where good cultivation is given. I find it one of the most reliable setters on a south-west wall, and in a favourable season the fruits are ripe in the middle of August. This is one of the most beautiful Peaches grown, having a skin of a delicate cream colour with a deep crimson on the sunny side, the flesh quite white throughout, and very melting and juicy. It was raised by Mr. Rivers forty years ago from a Nectarine.—S. H. B.

Early pruning of fruit trees.—"Dorset" does well to call attention to the necessity of pushing forward the winter pruning and nailing of fruit trees, as the less there is remaining to be done after Christmas the better. A mild autumn such as that just past is sometimes the precursor of a cold winter. Of this we had an experience in 1894 that will not soon be forgotten. What the future weather may be no one can predict, and pruning and nailing require to be done, as far as possible, before the coldest part of winter arrives. Like "Dorset," I have no sympathy with those who delay such work on the score of retarding buds, because this does not assure any great safety from spring frosts, which are so precarious that they may happen at any date, and there are occasions when the early bloom escapes, while the later flowers are overtaken and destroyed. There is so much uncertainty about frost, that the hastening or retarding of outdoor

buds is scarcely worth the trouble some put themselves to in trying to evade it. No outdoor tree can be gauged to flower at a time when it could be said to be safe from frost.—W. S.

SHY-BEARING APPLES.

I AM quite at one with "Norwich" in the advice given as to plantingshy-bearing varieties of Apples, especially when it applies to amateurs' or other small gardens. Nothing is more disappointing than to plant good trees and then have to wait several years before getting any return. I have two young trees of Emperor Alexander, in size quite capable of producing several pecks of fruit, but during the past six years I think I may say they have not borne a dozen Apples. Here then is a variety which it is not advisable for amateurs to plant unless they are prepared to wait a long time before getting a crop. Old trees of Warner's King fruit freely here, younger ones are only moderately free-bearing, and in soil suited to it I believe it would prove a good market sort. Its fruits are of the largest size, will keep a fairly long time and are splendid for cooking. Most of my trees are on the free stock, which with strong soil tends to an excess of leaf-growth in young trees, root-pruning being an oft-repeated necessity. Peasgood's Nonsuch, whether in young or older trees, is not free bearing here, but generally it sets sufficient for the development of the size of fruit desired, and which gives the variety such a popularity for exhibition. King of Tomkins County on the free stock is very shy with me, but on the Paradise in poor soil it bears much more freely. It is, according to my experience, not of high quality for dessert and not large enough for cooking. It has a nice appearance and will keep a long time, but there is plenty of Apples more deserving of the planter's notice. I have only one tree of Bramley's, and this was grafted on an older tree four years since. It has not been a success so far, although its growth is very fine. It is neither a free bearer nor a good keeping Apple with me.—W. S.

At p. 459 "Norwich" does well to call attention to the above. This is a point often overlooked in private gardens. In many cases the private grower is not altogether to blame, as the large fruit shows in a measure are answerable. At shows we learn nothing of the cropping qualities of these kinds. Of course one cannot always rely on catalogues, as in these most of the kinds have a good character. One kind "Norwich" failed with is with me a remarkable cropper in standard form. This is Warner's King. The other kinds he names fail with me, and I could add a good many more to the list.—S. M.

I agree with all that "Norwich" says about these, and would add that not only should amateurs and those with limited space avoid them, but also if those who grow for profit do not do so, they will soon find the profit on the wrong side of the ledger. I have lately headed down and regrafted a good many of the most highly extolled of all varieties because I was tired of looking for fruit year after year and finding none. I came to the conclusion that no amount of good qualities in other respects would ever make them profitable if they needed all sorts of coaxing to get any fruit at all on them, and as a rule these shy bearers are strong growers and make good foundations for kinds that do bear plenty of fruit. Of one thing I am quite certain, viz., that it is only courting defeat to plant such sorts as Peasgood's Nonsuch, Blenheim Orange, &c., as espaliers or in restricted forms of training of any kind, as they must of necessity be pretty closely pruned, this of itself militating against early fruitfulness. If you must have them in your collection, let it be in some form where the knife is very little used. With me Warner's King is by no means slow in coming into bearing, and its size makes even a thin crop profitable. My soil, being both light and warm, induces early fertility, but I have to be continually weeding out sorts that do not come up to the profitable standard of fertility.

Perhaps some kinds that do so well in the north do not take kindly to the south, and *vice versa*.—JAMES GROOM, Gosport.

Apple Maltster.—In referring to this Apple (p. 395), I stated that "tenderness in frost was attributed to it." That was said of it by several nurserymen, one especially from the midlands asserting such was the case. I also stated that it was not tender at Madresfield Court, hence it will be seen that my critics on page 458 have rather misread my note. Possibly the experience of the nurseryman with small trees differs from that of the gardener with old trees, but Mr. Crump has plenty of experience with the variety in both conditions at Madresfield. It is surprising how diverse in relation to flavour in Apples tastes are.—A. D.

Pear Van Mons Leon Leclerc.—Although not a highly flavoured Pear, this is quite equal to some varieties generally grown, as, for instance, Marie Louise d'Uccle. Well-grown fruits are very handsome, being long and tapering, and they keep a fair time when ripe. The tree is not one of the best of growers, making rather long-jointed wood and having smaller foliage than most varieties. It is not an early or heavy cropper as a rule. I have seen fruit of enormous size gathered from trees in good Pear soil, and it makes a fine exhibition kind. A west wall suits it well. I have never tried it as a pyramid, so cannot speak of its suitability or otherwise for this form of growth.—B. S. N.

Bamboo canes on walls.—I think it should not be overlooked that because Bamboo stems are hollow, if fixed to walls for tying trees to and getting bruised, split or broken, so that insects could penetrate into them, they would constitute fine places of refuge for these pests quite out of the reach of insecticides. Of course it will be said that they need not be split or broken, but then they may be so, and doubtless would be. They might even in the winter become charged with moisture and be frozen, thus causing bursting. If the Bamboos be, as suggested, fashioned in the form of trellises and secured to walls, they must have a space of a quarter or one-third of an inch between them and the wall to enable tying to be done.—A. D.

Protecting open-air Figs.—Those who were fortunate enough to secure a fair crop of Figs this summer on trees in the open air will have found a difficulty in preserving them from the attacks of wasps and flies, at least by ordinary means. Old gardeners protected the fruit with muslin bags, and I do not think the plan can be beaten. They should be made sufficiently large to allow of a free escape of moisture, otherwise in wet weather the fruit is apt to decay. The best time to envelop the fruits is just when they commence to soften, that being when wasps attack them. Any fruits shaded by foliage should when bagged have the leaves moved away from them, so as to allow of a free circulation of air around and through the bags. The fruits should be picked in an under rather than fully ripe state, as in the latter condition a slight shower of rain is apt to start decay.—J. C.

Plums on south walls.—Mr. Crook (p. 429), referring to the early date on which he gathered his first early Prolific Plums, says, had it been on a south wall it would no doubt have been several days earlier. I have not tried this variety on such a wall, but Kirke's and Jefferson's I have, and found that they were not a day earlier on a south wall than others growing on east and west aspects. I take it that if these are not favourably influenced as regards early ripening, other sorts, including the one Mr. Crook mentions, would not be. I have come to the conclusion that south walls are not very well suited to Plums, and, generally speaking, are more profitably devoted to Apricots, Peaches, Figs and Nectarines. In very many cases, however, these fruits have suffered much loss of character during the past few years with not a few gardeners, because of the apparent un-

certainty of their crops, and their tendency to blister in the spring months. I must confess to having similar thoughts respecting them until quite recently, when the protective influence of glass coping has been brought to bear on their cultivation. Previous to the erection of coping, Peaches were hopelessly crippled with blister each year. The aspect now is so changed that Plums which were given space on a south wall now give place to Peaches.—W. S., *Wilts.*

BUSH FIG TREES IN THE OPEN.

A SOUTH or west wall is the position usually given to outdoor Figs, and there can be no doubt that such is productive of the best all-round results. Trees planted in the angle where the two walls meet and trained on both give a longer succession of fruit. If the border is raised a foot or so above the level, so much the better, as then the roots get a maximum amount of warmth, while the foundation of the tree is being laid. Figs will, however, grow and fruit fairly well in bush form in the warmer counties provided the situation is sheltered and the root-run suitable. The finest examples of Brown Turkey I have ever seen indoors or out were in a garden on the east coast within a mile of the sea. The trees had originally been planted against the wall, but the lower branches had been allowed to ramble across the wide border into which they had rooted, forming, as it were, separate trees. On these close to the gravel walk hung in plenty, large, richly coloured fruit. These rambling branches derived very little actual warmth from the wall, although it certainly sheltered them. I remember two trees being planted in the south of England in front of and sheltered by garden offices, and they grew well and yielded good fruit. A wise course was adopted in planting. The trees were allowed to remain in the large pots, these being plunged in the beds prepared for them, all new roots being made from the surface, which had the effect of keeping growth in check for the first few years. The chief difficulty with trees so grown is protecting them during winter when they become large. The compost is an important consideration. Many are not aware in how poor a soil outdoor Figs, which are not bricked in like indoor ones, will grow. Mr. D. T. Fish explained in *THE GARDEN* a few years ago how he brought unfruitful trees into a fruitful state when living in East Anglia by removing the old soil and replacing it with one poor in character, in which broken bricks and mortar rubble largely predominated. The great thing with these bush trees is to allow no more growth than can be well exposed to sun and air. Trees that have been properly attended to this season ought to be well ripened, and, provided next spring is a favourable one, the year 1899 should be a record one for fruit. J. CRAWFORD.

Layering Strawberry runners into pots.

—With a view to save further labour and much trouble in watering, market growers usually layer their runners direct into fruiting pots. One of the largest lots I have seen so treated may still be seen at the Cobham Vineyard, where for the first time, having now greater house area, Mr. Bennett has 12,000 of Royal Sovereign in 6-inch pots. It showed great faith in the method and in the variety that all should have been layered into large pots at once, and that Royal Sovereign only should be relied upon. In preparing the pots not only was good drainage furnished, thus preventing all possible danger of the soil becoming saturated or clogged, but it was also made very firm and not too rich, good turfy loam being the chief constituent. The firmness of the soil and absence of fresh manure naturally caused the roots to develop slowly, so that leaf growth was equivalent and not coarse. The whole of the runners were taken from plants put out so late as the preceding September, and then not strong ones, having been bought in for the purpose. These were in pairs, grown 2 feet apart, and then a space of 3 feet divided each

pair. Of course the plants were not allowed to bloom; hence there was no trouble arising as to contact with fruit, whilst watering was of less concern than would have been the case with small pots.—A. D.

Pear Chaumontel.—Thanks to the past hot, dry summer, the flavour of Chaumontel Pear will be of a high order this season, judging it by a fruit which has ripened somewhat in advance of the bulk. This Pear, as a rule, does very well with me both on a south-west wall and as a low-spreading bush in the open garden. The latter crops the more heavily, whilst the former yields the larger fruits, and I should also add that both are on the Quince stock. It is seldom the trees miss cropping, but in the last three seasons they have borne remarkably well, and although the fruits would not compare with Channel Island produce as regards size, the flavour is equal to that of very many of our best Pears. It is also a very highly coloured Pear, the sunny side of the fruit being bronzy red, having a rather rough skin and a fairly regular outline. It has a pleasant rose-water flavour, the flesh being melting, juicy and rich when thoroughly ripened. It is also a good keeper. Its season varies considerably; in some years it is not ready until the end of the year or middle of January, in others from the end of November to the middle of December, everything depending on the character of the summer months, whether hot or the reverse. It is not a Pear that I should recommend being planted promiscuously, as it is only on warm soils and in favourable situations that it is a success, but, given these conditions, it is certainly worth growing, and I know of no other sort that pays better for high cultivation.—A. W.

Good cordon Pears.—All Pears are not alike suitable for growing in cordon form, some requiring a more extended growth to ensure fertility. For those with only limited means the following half-dozen will be found to give satisfaction in most soils and situations grown either as wall cordons or horizontally by the side of garden walks. Taking them in their order of ripening, both Williams' Bon Chrétien and Souvenir du Congrès are reliable as early autumn varieties. Where space is limited one only need be grown, as both ripen at about the same time and will not keep long. I give the preference to Souvenir du Congrès, although some think it rather short-lived on the Quince. Louise Bonne of Jersey not only crops well as a cordon, but colours its fruit beautifully when exposed to sun and air. Where the soil is strong and not well drained, special preparations must be made for this variety by removing the old soil to a depth of 18 inches or 2 feet, placing 6 inches of broken bricks in the bottom and filling in with a lighter, more open compost. The new Directeur Hardy, an October and November Pear, can be recommended as a good cordon variety, bearing heavily and being of extra good flavour. Beurré Superfin, a handsome russety fruit, forms a prolific cordon on the Quince, and should be in every collection; the flavour is rich and melting. Doyenné du Comice must be included in the most select collection of cordons, having, besides the richest flavour, size, appearance, and constant cropping qualities to recommend it. Olivier des Serres, invaluable for use in February and March, is very prolific as a cordon, the fruit being of medium size, round in shape, and of exquisite flavour. The tree is, moreover, of hardy constitution. The old Easter Beurré, in use at the same date, is a capital cordon variety, and although the quality is condemned by some, it is very sweet and refreshing, and keeps sound for a long period.—C. N.

NOTES AND QUESTIONS.—FRUIT.

Pear Beurre Bosc.—This is one of the best market Pears, for it is a strong grower and makes a fine bush, pyramid, or standard tree and is very prolific. Even in this exceptionally poor season for Pears, this variety has come out about the best of any. In fairly good seasons it is so prolific, that 5s. a bushel

would repay the grower well, but this season it was worth from 8s. to 10s. a bushel. Nearly all the fruit on a tree will be of about the same size, without a speck or blemish of any kind. I grow it as a bush tree.—J. G., *Gosport.*

Apple French Crab.—This fine old variety is not nearly so much grown as it deserves, for it is a very hardy, free-bearing kind, and keeps sound until Apples are in season again. It should not be gathered until the end of October or early in November, and I have seen it left hanging until December. If kept until the following spring it takes on a clear lemon colour and emits a very powerful perfume. Few Apples have such a fine flavour when mixed with Rhubarb in tarts. I find it one of the best for cultivating on its own roots.—J. G., *Gosport.*

KITCHEN GARDEN.

THE AUTUMN AND WINTER BROCCOLI.

THERE is no lack of really good autumn Cauliflowers, the Autumn Giant and others of the same type giving an ample supply well into October. The plants for the late autumn supply were none too plentiful on account of the summer heat and drought. The early Broccoli is this year not so good as usual, doubtless owing to later planting, the plants failing to make the desired progress afterwards. In my case the plants are smaller than usual. In the north, with more moisture, the plants suffered less, but in the south it was a difficult matter to keep them moving. Such seasons give cultivators a lesson. I shall plant earlier and make at least three different sowings and plantings. The plants put out in May and June have all done well, especially those which were planted in soil not dug over. Those that followed Potatoes are the smallest, and I fear they will not turn in at the season required. With too early planting and a favourable growing season the plants will turn in before the proper season. There is no great difficulty in retarding them. Soils will greatly influence growth. A rich garden soil is not the best for the autumn and winter Broccoli, as if the garden is at all sheltered they at the start make a rapid growth, grow up tall, with the result that the heads are weakly and there is far too much stem growth. The best plants are those in open fields. These invariably come in at the right season and the heads are of the best quality. As regards pests, few seasons have tried the grower like that of 1898. From early August to the end of September in a close garden it was necessary to go over the plants every week and pick off the caterpillars. Other growers may have been more fortunate. Only half a mile away the plants grown by the acre in fields with a poorer soil, but given more space, were scarcely touched by the pest. I note this to show the difficulties of growers in close gardens.

As regards varieties, they are many. I wish one could rely upon the good characters given some of the varieties as regards season and hardiness. Last year I had some new early varieties of Broccoli sent me for trial from Italy which turned out to be the Green Cape type grown forty years ago. I am not averse to new kinds by any means. We have had some splendid new things since the date I name; for instance, the Autumn Giant Cauliflower and the Protecting Broccoli, both most valuable additions, the latter the best I have grown for early autumn supplies. For many years Snow's Winter White was a reliable kind, but of late years my December supply has not turned in till spring. Those who, like myself, have a demand every day in the year for the Broccoli or Cauliflower will agree with my re-

marks as to our midwinter kinds, my chief complaint being that the varieties fail to turn in at the time stated. My best supply is obtained by growing large quantities of such kinds as the Self-Protecting and Superb Early White. The latter is none too early if not sown with the Cauliflower early in the spring; whereas the Protecting sown in April and May will give supplies in November or later. For later use I lift large quantities of plants when the heads are the size of a small ball. These are placed close together in frames, and treated thus they continue to grow. Frames are not a necessity, as the larger plants I place in an open shed, and thus get the first early winter supply. Superb White, though small when lifted early in December, turns in early in the year. I find the greatest scarcity is from December till February. This season tided over, there is less trouble. Of course, in the warmest parts of the country storing may not be needed, but in cold districts it is well to do so. S. M.

Potato Puritan.—I note at p. 489 "Norwich" writes very favourably of the Beauty of Hebron. I prefer Early Puritan, as this with me does not get disease so badly, but I doubt if the crop is quite so heavy. I am quite sure that few, if any, varieties are so profitable as these if grown in a light soil, and these qualities cannot be overlooked. Beauty of Hebron is more largely grown in country districts than any other Potato I know. On the other hand, these kinds are not good in wet soils, and in wet seasons there are great losses. Growers who do not care for many varieties will do well to note the faults of the kinds named and plant such as Windsor Castle, in my opinion one of the very best for crop, quality and long keeping.—G. W. S.

Cauliflowers in spring.—The good advice by "C. N." (p. 489) is very applicable at the present time. Those who are short of plants should sow a few seeds of such kinds as First Crop, Early Forcing, or a good selection of the Snowball. Last winter was one of the mildest we had for years, and I noticed a large percentage of the Cauliflower plants sown in August buttoned. I kept the smaller seedlings in the open, and they gave the first heads, but later than usual. I have referred to the need of sowing at this date or early in the year. I prefer sowing now, as plants raised in heat need more care and at times mildew badly. If sown thinly in boxes in cold frames and pricked off when large enough, they will give nice heads only a little later than those of autumn-sown plants.—G. W.

Potatoes failing.—"Amateur's" complaint as to his Reading Giant Potato tubers planted as seed failing to produce robust plants, and not decaying as all seed tubers ordinarily should, was found very common last season, arising from the excessive dryness of the soil. Generally, seed tubers, even if uncut, will decay, because there is in the soil sufficient moisture to promote that process. But sets that have been cut invariably decay because the wet surface seems able to attract moisture from the soil which cannot be conducted to the flesh when a stout skin armour interposes. There is some sense when planting in a dry time in cutting a small portion from off the lower end of each tuber so as to expose a portion of the flesh to the soil, as then decay commonly ensues. But it is not generally understood that the tuber flesh in its decay becomes food to the young plant's roots. Up to a certain stage the albumen in the flesh has sustained most development. Then in the decay of the cellular tissue food is furnished to the roots, and thus the seed tuber when decaying seems to be doubly utilised. I remember during a dry summer at Woodstock, when Mr. Robert Fenn was living at the rectory, he lifted some roots of new varieties of Potatoes on the skins of the seed tubers of which he had written with a pen and ink, and when lifted the seed tubers were found still hard and the writing

quite distinct. However, these things are pure accidents of a dry season. Probably no such similar drought will be experienced during the growing period of Potatoes for many years to come. Variety has nothing to do with the occurrence.—A. D.

The failure complained of by "Amateur" (p. 424) was undoubtedly caused by the prolonged drought. The very same thing occurred in this locality, and on a sufficiently large enough scale to prove a serious matter to the owner, who grows for market. When the crop was dug, the majority of the sets came out quite sound, the manure was not decayed, and even pieces of paper which had been ploughed in with the manure came out so sound that the printed matter could be mostly read. The soil was not wet when the sets were planted, and we never got enough rain to thoroughly moisten it during the growing time. In an ordinary year about ten tons to the acre would have been taken off the field; whereas the crop averaged no more than two tons to the acre, the majority of the tubers being under-sized. Some varieties have been much more affected by the drought than others, and probably another season the variety which has failed with "Amateur" would be satisfactory.—J. C., *Byfleet*.

EARTHING UP CELERY.

THOUGH there may not be so very much difference in the flavour of the various sorts of Celery when well grown, there can be no doubt that some are more hardy and stand a wet winter better than others. In this respect I have always given the palm to Leicester Red. After all, however, a good deal depends on when and how the plants are earthed up, although this season, owing to the soil being in a semi-dry condition in most gardens, late earthing up may not have the ill-effects it usually does. If at all avoidable, I do not like to earth up Celery when the soil is in a very wet condition, as the ridges do not drain so well and decay is encouraged. Moreover, worms, slugs, and other pests are then more at home than in drier quarters. With the earliest and second early rows, at any rate, it is generally practicable to choose fine weather for earthing-up. After the small bottom leaves and any suckers are removed, I like to loosen a little soil from the sides in the early part of the day and allow it to lie in the trench till the afternoon, breaking it up, if at all lumpy, with a five-tined fork; by this time sun and air have dried it, and it is in good condition for encompassing the plants. Tying up each plant lightly with strips of matting to prevent the ingress of soil is a good plan, but I prefer two men across the row, one walking backward and grasping the stick with both hands, while the other following brings the soil up to the plant with both hands. A height of 6 inches or so is enough for a start, and after this is done, a little more soil is forked down and all left level and neat. This moulding with the hands is continued till the tops of the hearts are reached. I find this secures good clean sticks. Where ground is plentiful, plenty of room should be allowed between the rows, so that the ridges may be of sufficient width till near the top. Unless this is done, the soil is very apt to collapse during heavy rains. Bring the ridge to a sharp angle to prevent wet finding its way into the hearts. C. N.

Autumn-sown Onions.—At p. 424 "A. D." notes that complaints are rife about getting the seed of autumn-sown Onions to germinate freely. Greater success would be achieved were growers to well water the ground twice at intervals of several days, or, better still perhaps, draw the drills, fill these with water, and after a few days sow the seed, mulching over the rows with old Mushroom manure to preserve the moisture. "A. D." is correct in stating that some varieties of Spanish and Globe Onions if sown in autumn stand the winter equally as well as the Tripoli. I have proved it in the case of Trebons, which is

one of the best for the purpose, and, as "A. D." says, the bulbs are always harder and keep better than those of the Tripoli.—N.

Pea Essex Rival.—Few Peas have remained in commerce so long as Essex Rival. I can remember it for at least thirty years, and although not generally grown in private gardens, it is, I believe, still regarded as a profitable variety by market growers in Essex. It is of hardy constitution, of medium height, and a profuse bearer, and what most people would call a good eating Pea. My opinion is that if those who grow Peas for market would sow Essex Rival, they would find it still one of the most reliable and profitable sorts.—C. N.

Pea Autocrat.—One can scarcely imagine a more popular Pea than Autocrat for main and late crops. It is only necessary to review the many reports of Peas which have appeared in THE GARDEN during the past few weeks to become convinced of the great merits of the variety under notice. It has an excellent constitution, bears freely, and does not attain to the ungainly height of some of the older sorts, which, though they possess great freedom of pod, large seed, and fine quality, are unsuited to smaller gardens by reason of the height to which they grow. Autocrat is a good dry-weather Pea and not so subject to mildew as many others.—W. S., *Wills*.

Lettuce Continuity.—The keeping up of a good supply of Lettuce throughout the past dry summer has been a matter of anxiety to many gardeners. Many varieties, particularly of the Cos section, either refused to grow or else ran to seed before hearts could be formed. Continuity has become popular, and in a dry season when water was scarce I have found it invaluable. By sowing and planting in succession I have experienced no difficulty in keeping up a good supply. The outer leaves of Continuity are brown, but the heart, which is large, is white and crisp. This variety showed no tendency to run to seed when other sorts grown were useless.—H. H.

Cucumber Tender and True.—Where very heavy crops of Cucumbers are not an object, I very much question if there is yet a better variety to grow than Tender and True. The flesh is tender, juicy, and well flavoured; in fact, it is the Cucumber for quality. It does not like rough-and-ready treatment, needing good culture, which it well repays. At one place where it was grown exclusively for private use pot culture was adopted. The pots were large and were half plunged in a bed of tan, the plants being liberally fed with liquid manure. A regular supply was kept up from spring till autumn. In appearance, few Cucumbers can surpass it. Many even of the finest looking Cucumbers are hard and dry.—NORWICH.

Winter Spinach failing.—The sowing and forwarding of the Spinach crop presented this season many difficulties, and after all one's efforts poor results are apparent, and now no compensation comes from all the trouble taken. I do not remember a season when the winter Spinach crop proved such a signal failure, and the cause is not clearly understood. Watering of the drills at the time of sowing and after the plants were well above ground was carried out at the expense of some other work, the crop being one of more than ordinary importance, because in daily demand. Two or three sowings were made as ground could be cleared of some other crop in August and September. The first sowing made a poor growth and went to seed even before it was ready for use. Later batches dwindled away after the rain had moistened the soil, a time when it was hoped a renewed growth would be established and sustained. All turned yellow in the leaf before the end of November, a condition I have not seen in a Spinach crop before—at any rate, not at such an early period of the winter. The autumn rains and mild weather have had no beneficial influence, so the cause for the collapse must be traced to the earlier seed-bed stage of growth.—S.

TREES AND SHRUBS.

THE HARDY SUMACHS.

(RHUS.)

THE genus *Rhus* occurs in almost every part of the temperate regions of the globe, and occa-

very painful, occasionally even dangerous. A correspondent to a contemporary a few weeks ago asked if the poisonous action of these plants was a myth. It is a very real thing. At least half a dozen cases have come to my personal notice. As a rule it is in propagating or in pruning that the mischief is done. The sap

soft pubescence (more especially when young), and irregularly toothed; the middle one is the largest, and is itself sometimes three-lobed. When crushed the leaves emit a slightly aromatic scent. The juice is not poisonous. The flowers are pale yellow, and are produced in short, dense clusters, which are formed in autumn, but do not open till about the middle of the following April; they are followed by fruits about the size and colour of Red Currants. It is a native of the Eastern United States, and was introduced in 1759.

R. A. VAR. TRILOBATA is a smaller-leaved variety found in Colorado and other Western States. Its leaves are smaller, and the leaflets are distinctly lobed towards the apex. The odour of the foliage differs from that of the type in being more unpleasant.

R. COPALLINA.—Sargent observes of this species that in America its foliage is more beautiful in summer and autumn than that of any other North American Sumach. It scarcely bears out that character in this country, although certainly a handsome shrub. From the other American pinnate-leaved species it can at once be distinguished by the leaf-stalk being winged between the leaflets. In the Southern United States it appears to be sometimes a fair-sized tree (25 feet to 35 feet high), but it is only a shrub in the more northern parts, and with us never more than 5 feet high. The leaflets, of which there are generally nine to thirteen, are each 2 inches to 2½ inches long, bright dark green and smooth above, pubescent beneath. In autumn they turn a dark brownish crimson. The flowers are borne on broad, dense, terminal racemes, but have no particular beauty. The different sexes are on separate plants. It was introduced in 1688, and was cultivated by Compton, Bishop of London, at Fulham. It does not furnish any of the copals of commerce, as the name might be thought to imply.

R. CORIARIA, the species that furnishes the sumach of commerce, is a native of South Europe. Loudon includes it among his hardy



The Stag's-horn Sumach (*Rhus typhina*) grown to a single stem in the Royal Gardens, Kew. From a photograph by G. Champion.

sionally in the tropics. In all, there are more than 100 species described, but the majority of these are not known in gardens, and it is only about ten or twelve deciduous species that can be grown satisfactorily out of doors in most parts of this country. It is this small group that I propose to review in the following notes. A few of the Sumachs are notable for the beauty of their flowers—or rather that of the inflorescence as a whole, the flower itself being always small and, as a rule, dull in colour—but their greatest claim to our notice rests in the beauty of their foliage. Whilst this is, in many instances, remarkable for its size and form, it is, above all, to its rich and often brilliant autumn colouring that the great value of the hardy Sumachs as ornamental shrubs is due. Those that are hardy in Britain resolve themselves into two distinct groups. The first of these contains two species, viz., *R. Cotinus* and *R. cotinoides*, which are distinguished mainly by the leaves being undivided. Some authorities make a separate genus of them. The other section contains the more numerous species that have either trifoliate leaves (like *R. Toxicodendron*) or pinnate leaves (like *R. typhina*). Most of these latter species with compound leaves bear male and female flowers on separate plants. The common name of "Sumach" is derived from "sumac" or "shumac," which is a dye made of the powdered leaves of *R. Coriaria*. Large quantities are imported annually to Britain, mostly from Sicily.

In writing of the Sumachs, it is necessary to call attention to the poisonous properties that belong to at least two of those here mentioned. These are *R. Toxicodendron* (or *radicans*) and *R. venenata*. The juice of these species when applied to the skin is a very strong irritant, and although a few people can handle the plants with impunity, on the majority the effects are

runs on the hands and is afterwards transferred to various parts of the body; a few hours after, this is followed by inflammation and an intolerable itching, and ultimately by eruptions or even ulceration. It may be months or even years before the effects finally disappear. Zinc ointment appears to be the best palliative for the itching, but the eruptions apparently have to run their course. Unless a person knows himself to be safe from the effects of the juice of these plants, gloves should always be used in handling them.

As regards their cultivation, the Sumachs may be described as very accommodating. Any soil that is of moderate quality will suit them. They certainly do not need a very rich soil, and they bear prolonged drought better than most things. Most of them can be propagated by root-cuttings and others root readily from layers. Some of the species are naturally short-lived. This is a list of the species dealt with in the following notes, together with the commonest synonyms:—

EUROPEAN.—*Cotinus*, *Coriaria*.

CHINESE AND JAPANESE.—*Osbecki* (syn., *R. semialata*), *trichocarpa*, *Toxicodendron* (syns., *R. radicans*, *R. ternata*, *Ampelopsis japonica*, *A. Hoggi*), *succedanea*, *vernicefera*.

AMERICAN.—*Aromatica* (syn., *R. canadensis*), *copallina*, *cotinoides*, *glabra*, *Toxicodendron* (also Japanese), *typhina* (syn., *R. viridiflora*), *venenata*.

RHUS AROMATICA.—From the other hardy species of *Rhus* this differs in its habit of flowering in spring before any of the leaves have begun to show. It is a bush of rather low, straggling habit, not often seen more than 3 feet to 5 feet high. The leaves consist of three leaflets, each leaflet being from 1 inch to 3 inches long, covered with a



The Smoke Plant (*Rhus Cotinus*).

Sumachs, and states that it was introduced in 1629, but I have not yet met with it. Some con-

tinental nurserymen offer it for sale, but we have never been supplied with the true plant—generally with *R. typhina*. I suspect it is not hardy.

R. COTINOIDES (Chittam Wood).—I know no Sumach, nor indeed any shrub, that assumes beautiful autumn tints more regularly than this. Whatever the season may be, wet or dry, cold or warm, its leaves become a beautiful scarlet, suffused with various shades of orange and crimson. I have never known it fail. At present it is one of the rarest American shrubs in this country, and what is generally supplied for it is the common Venetian Sumach. It is a native of several of the Southern United States, but even there is very rare. It was originally discovered by Thomas Nuttall in 1819, on the banks of Grand River, a tributary of the Arkansas. Long after, it was again found on the Cumberland Mountains, in Alabama, and subsequently in Tennessee and in Texas. Professor Sargent observes that "during the War of Secession nearly all the large specimens were cut down for the dye which the wood yields. The tree is much less common than formerly and is in danger of extermination." It bears a strong resemblance to our European *R. Cotinus*, the leaves being quite undivided and entire, but larger and not so round as those of its ally. It is also of more open, less bushy habit, and apparently gets to be a larger tree than *R. Cotinus*, for Sargent describes it as "a small tree, occasionally 25 feet to 35 feet high, with a trunk 12 inches to 14 inches in diameter." The flowers are also borne on longer and more slender panicles, but it has not yet, so far as I know, flowered in Britain. It is, however, as one of the most lovely of autumn-tinted shrubs that it deserves to be widely known. It was introduced to cultivation through the agency of the Arnold Arboretum in 1882.

R. COTINUS (Venetian Sumach, Burning Bush, &c.).—Aiton says that this shrub was introduced in 1656, but in spite of that and its great beauty and the fact that it thrives well in even poor soil, it is by no means very extensively planted. In a wild state it is generally distributed over Middle and Southern Europe, and extends thence to the Orient, Caucasian region, Cashmere, the Himalaya and China. The leaves, which vary from 1 inch to 3 inches long, remain on the plant into winter, and before they fall often turn a rich yellow. The great beauty of the Venetian Sumach, however, is in its curious inflorescence. The flowers are borne on a broad, much-branched panicle, many of whose final sub-divisions are flowerless, and reduced to mere thread-like stalks, which are clothed with fine hairs. It is during August that these remarkable panicles are in their greatest beauty. They have then become like tufts of down and have put on a beautiful deep flesh colour. Although usually a shrub not more than 6 feet to 8 feet high, spreading out, however, twice as much in diameter, the Venetian Sumach is found wild sometimes as much as 12 feet high, almost a small tree. The wood, which is yellow or greenish, is used in cabinet-making and in turnery. The young twigs also furnish a fine yellow dye, much used in dyeing calico, &c. There are two varieties of this *Rhus* in gardens: (1) *atropurpurea*, whose leaves, young wood and panicles are purple, and (2) *pendula*, which has drooping branches.

R. GLABRA (Smooth Sumach).—The only species with which this is likely to be confused is *R. typhina*, and it is easily distinguished from that by the wood and leaves being always devoid of hairs and by the leaflets being more or less glaucous beneath. Neither is it so big a plant, being a shrub rather than a tree, varying from 3 feet to 8 feet high. It does, however, resemble *R. typhina* in the size and character of its leaves, also in the inflorescence. It is rather curious that while the other parts of the plant are smooth, the flower-panicles, the flowers themselves, and, in the female plants, the fruits, are covered with crimson hairs. The fruiting panicles are especially handsome and they retain their beauty right into the winter. The leaves die off a fine rich red as in *R. typhina*. The species is a native

of the Eastern United States and was introduced in 1726. The

VAR. LACINIATA is very distinct, the leaflets being longer and of much greater breadth than in *R. glabra* itself, but they are cut up into narrow, more or less pinnate segments. The engraving gives a very good idea of the feathery grace of a well-grown plant.

R. OSBECKI.—Just as *R. copallina* can be distinguished from the rest of the American Sumachs by the leaf-stalk being winged between the leaflets, so can this species be recognised among the hardy Asiatic ones by the same character. Its foliage is, however, more striking than that of *R. copallina*, the leaves being much larger. Each one consists of five or more pairs of leaflets, some of which on especially vigorous shoots will measure 6 inches long by 4 inches to 5 inches broad. The leaves are, indeed, as regards size, the most striking among those of the pinnate-leaved Sumachs, and the species is worth growing for this character alone. When grown for this purpose the shoots should be pruned hard back each spring, and the new growths reduced to one or two on each. The leaflets have their margins set with large blunt teeth, and the under surface is covered with a close, pale-coloured wool. In suitable seasons they turn orange, or orange-scarlet, in autumn. The flowers are produced on large terminal panicles in July and August, but have no special attractions. The species is a native of China and Japan, where it gets to be a tree 20 feet high. It is sometimes regarded as one of several varieties of *Rhus semialata*, a species widely spread over North-east Asia, which has these winged leaf-stalks.

R. SUCCEDANEA.—Unfortunately, this species, which is one of the handsomest of the Sumachs, is not quite hardy in most parts of Britain. Its pinnate leaves are a soft rich red when young, and turn the same colour again before they fall in autumn. Near London it can only be successfully grown in pots and housed during winter. It has been grown in the temperate house at Kew for many years. Possibly the confinement of the roots in pots tends to heighten its colour. It is certainly worth growing for this quality alone, and would most likely thrive outside in the south-western counties. It furnishes the Japan wax which is used, although not so much as formerly, in candle-making.

R. TRICHOCARPA.—It is only quite recently that this Sumach has been introduced to cultivation, and it is too soon to say anything definite as to its value in gardens, but the following extract from Sargent's *Forest Flora of Japan*, describing it as it appears in its native country, leads one to hope it may thrive here: "It should be cultivated for the extraordinary beauty and brilliancy of the leaves in autumn, when they assume the brightest scarlet and orange tints. It is a slender tree, sometimes 20 feet to 25 feet high, and very common in the forests of Yezo and on the mountains of Central Hondo. The leaves are 18 inches to 20 inches long, with dark red midribs and broadly ovate, long-pointed leaflets, slender panicles of flowers, which open in July, and pendulous fruit clusters with large, pale, prickly drupes ripening in August or early in September. Neither the flowers nor the fruits are attractive, and there is nothing very distinct in the appearance of the tree except in autumn, when, however, it is so beautiful that if it succeeds here I believe it will prove one of the best introductions of recent years" (p. 33). Young plants have already coloured well with us.

R. TOXICODENDRON (Poison Ivy).—In a state of Nature this is the most widely spread of all the hardy species of *Rhus*, being the only one that is a native of both the eastern and western hemispheres (North America and Japan). In gardens it is the species most grown, although often under a variety of names. The commonest of these is *Rhus radicans*; other more misleading ones by which it is known are *Ampelopsis japonica* and *Ampelopsis Hoggi*. The species exists in two distinct forms—as a shrub and as a climber. Between these, however, there come

more or less intermediate forms. Even the shrubby one is of somewhat rambling habit. The other is a distinct climber, emitting aerial roots like an Ivy. In the forests of Japan it climbs to the summits of the largest trees. Both the forms have leaves composed of three broad-oval leaflets, which are mostly entire at the margin, especially in the climbing plant, although sometimes set with a few coarse teeth; they are stalked, and the blades vary from 1½ inches to 6 inches in length and are generally more or less woolly. In autumn the leaves turn a very fine purplish red, the Poison Ivy being a plant that very rarely fails to colour well. Both the forms were originally introduced from the Eastern United States. The poisonous nature of the plant has been already alluded to. It is best not to plant it close to paths or in places where trimming with a knife may frequently have to be done. Although so poisonous in its effects on the skin of most people, it is curious that animals eat the foliage without any ill-effects.

R. TYPHINA.—The Stag's-horn Sumach, as this is called, is one of the finest of the species with compound leaves. It is a native of the Eastern United States, and has been cultivated in England since the time of King James I. It was one of the plants grown by Parkinson. Here it forms a small, round-topped tree upwards of 20 feet high. In America Sargent states that it is occasionally twice as high as that. When cut, its wood quickly exudes a thick yellowish juice, which is not poisonous. The wood on the younger branches is always hairy, which affords a ready means of differentiating this species and *R. glabra*. The leaves vary in size according to the age, vigour, &c., of the plant. On mature trees they will range from 12 inches to 18 inches long; on young hard-pruned specimens, 2 feet to 3 feet long. The numerous leaflets are toothed, lanceolate, 3 inches to 6 inches long, and when they first open are covered beneath with reddish hairs. During the summer they are deep green, but in autumn if the season is suitable they turn a brilliant red, sometimes suffused with crimson or orange. Male and female flowers appear on separate plants, and the variety known as *viridiflora* is simply the male. In both sexes the flowers are densely borne on hairy panicles, but the female panicles are shorter and very compact. The flowers, flower-stalks, and fruits are thickly covered with crimson hairs, and the fruits retain their colour through much of the winter. The Stag's-horn Sumach is sometimes grown as a sub-tropical plant, being cut back every spring and reduced to one or two shoots, as in the illustration. It then forms immense leaves, which are especially ornamental in autumn.

R. VENENATA (Poison Sumach).—The juice from the stems of this species is equally, if not more poisonous than that of *R. Toxicodendron*, and, being more uncommon and not well known in gardens, it is the more necessary to make known this character wherever the plant is grown. In other respects it bears but little resemblance to *R. Toxicodendron*. It is a shrub whose pinnate leaves consist, as a rule, of about eleven leaflets, which are each 1½ inches to 3 inches long, glossy, smooth (except when quite young), and have the margins quite entire. In autumn they are singularly beautiful, turning a brilliant scarlet. Loudon describes them as being at this season "of unparalleled splendour." The plants are unisexual. The female ones fruit occasionally in England, the berries being the size of small Peas and hanging in graceful clusters from the leaf-axils near the ends of the branches. The species is a native of the Eastern United States, where it is sometimes met with over 20 feet high, and whence it was introduced early in the eighteenth century. Judging by the situations in which it often grows in Nature, it is likely to be more moisture-loving than most of the Sumachs.

R. VERNICIFERA is the famous Lacquer Tree of Japan, of which country it is not, however, thought to be a true native, although it has been extensively cultivated there for many hundreds of years. It is certainly a native of China,

although, according to Dr. Henry, it only grows wild in the mountainous districts. The pinnate leaves are large and striking, the leaflets being entire and covered beneath with a velvety wool.



Rhus glabra laciniata.

It has grown well and survived the last three winters at Kew, but whether it will survive our hardest winters is perhaps doubtful.

Arboretum, Kew.

W. J. BEAN.

TREES AND SHRUBS CERTIFICATED DURING 1898.

THE number of hardy trees and shrubs that have received either first-class certificates or awards of merit during the year 1898 is just the same as last, viz., nineteen—that is, if the hardy Bamboos are included in the list. The most notable feature this season is the number of these Bamboos that have been thus honoured, for no less than six obtained recognition from the committee, the occasion being the special exhibition of these plants held at the Drill Hall on July 26. *Ligustrum Walkeri*, which received a first-class certificate on September 20 and has been the subject of sundry comments since, has not been included, as it must be considered more as a greenhouse than a hardy shrub.

The following is the complete list, the names being given in the same order as they were shown:

AZALEA OBTUSA.—This is one of the small-growing forms of Azalea, a good deal in the way of some of Mr. Carmichael's hybrids between *A. amena* and members of the large-flowered Indian section. *A. obtusa* forms a freely-branched little bush and the orange-red flowers are borne in great profusion. There is also a variety whose flowers are generally pure white, though occasionally a few stripes of red may be found on some of the petals. It is a native of Japan, and has been now grown in our gardens for many years. Although it is the *Azalea obtusa* of Lindley, its name, according to the Kew list, is *Rhododendron indicum obtusum*. It is hardy only in favoured localities, but forms a very ornamental plant for the cool greenhouse. An award of merit was bestowed upon it on March 22.

AZALEA J. J. DE VINK.—The hardy mollis group to which this belongs has received many additions of late years, and among the best of them must be included this variety. The flower clusters as well as the individual blooms are

large, the colour being pale orange, suffused with salmon.

DEUTZIA FARNETIFLORA.—A native of Northern China, this *Deutzia* was introduced about ten years ago, having been put into commerce by M. Lemoine, of Nancy. It forms a sturdy bush that will reach a height of 4 feet or 5 feet, being altogether a stouter growing plant than the popular *Deutzia gracilis*. The flowers, which are arranged in small flattened corymbs on the shoots of the previous year, are white and much like those of the Hawthorn. It is quite hardy, and in the open ground flowers a few days earlier than *D. gracilis*. These two species were crossed by M. Lemoine, the product being *D. Lemoinei*, which rapidly became popular, and received a first-class certificate in the spring of 1896.

AZALEODENDRON EDOUARD ANDRÉ.—The botanical certificate which was awarded this plant on April 26 is the first, as far as I know, that has been bestowed upon any of our hardy shrubs for a very long time. It is certainly an interesting hybrid, having been raised from *Azalea mollis* crossed with a variety of *Rhododendron ponticum*. Though curious, it is not particularly ornamental, the flowers being pink with crimson spots on the upper petals.

ILEN GOLDEN KING.—Among the numerous green-leaved varieties of Holly a very popular kind is that known as *Hodginsi*, characterised by a free, bold style of growth and large, dark green leathery leaves. The variety Golden King is a sport from this, and differs only from the type in the markings of the leaves, which have a rich green centre, and are broadly, but irregularly, edged with gold. At the Temple show it received an award of merit.

PHILADELPHUS MONT BLANC.—This is one of the many hybrid forms of Mock Orange raised by M. Lemoine, of Nancy, in the production of which the little New Mexican *Philadelphus microphyllus* has played a part. The variety Mont Blanc produces its pure white, sweet-scented blossoms when not more than a foot high.

PHILADELPHUS LEMOINEI.—This was the first of M. Lemoine's hybrids from *P. microphyllus*, and though distributed so long ago as the autumn of 1887, it was only on June 28 last that an award of merit was given it, while the previously mentioned Mont Blanc received the same award on June 14.

HEDYSARUM MULTIFLORUM.—The subject of a coloured plate in vol. liii. of *THE GARDEN*, and a widely known, low-growing shrub, this *Hedysarum* obtained an award of merit on June 28. It is a somewhat loose, weak-growing plant clothed with greyish pinnate leaves, and during June and July the spikes of pea-shaped flowers are plentifully borne. The colour of the blossoms is a kind of magenta-purple, not altogether a pleasing tint. It is a native of Southern Mongolia, and has been grown in this country about a dozen years.

PICEA PUNGENS GLAUCA PENDULA. This is a very striking variety of the Colorado Blue Spruce, the older forms of which the late Mr. Anthony Waterer used to grow so well. The branches of this droop in such a manner as to well merit the name of *pendula*. A plant about 9 feet high was sent from Holland by Messrs. Koster, Boskoop, and a first-class certificate awarded it on July 12.

ARUNDINARIA NITIDA.—On July 26 several beautiful hardy Bamboos were submitted to the floral committee, one of the most striking being *Arundinaria nitida*, which obtained a first-class certificate. It is as yet a rare species from Northern China, but will doubtless be much sought after, being an extremely graceful plant. The young shoots are purple, while the bright green lanceolate leaves are borne in such profusion as to quite weigh down the slender twigs. It has proved to be thoroughly hardy, and is in every way particularly desirable.

ARUNDINARIA ARISTATA.—This species occurs on the North-eastern Himalayan ranges in Sikkim and Bhotan at an altitude of about 10,000 feet. The stems, which reach a height of 10 feet or thereabouts, are yellow and upright till bent by the clusters of long, narrow, bright green leaves. In this species the sheaths at the nodes are remarkably persistent.

ARUNDINARIA VEITCHI.—This is a far better-known plant than either of the preceding, but much less graceful in habit. It forms a free-growing, somewhat flat-topped mass a couple of feet or a little more in height. The leaves are large, being over 2 inches wide and 6 inches or 7 inches long. During the summer the foliage is of a fine dark green, but at this season the edges of the leaves become withered and present at a distance a curious feature. Care must be taken



Rhus verniciflua.

in planting this, as the creeping rhizomes are particularly aggressive.

ARUNDINARIA METALLICA.—Concerning this

Bamboo, the well-known authority, Mr. Freeman-Mitford, in an article in the *Gardener's Chronicle*, says: "This Bamboo, recently introduced by me from Japan, is likely to make a valuable covert plant. It is very like *A. Veitchii* in character, but bolder and stronger, and does not wither at the edges in winter like *A. Veitchii*. It has most rampant rhizomes, and is, therefore, not suited for anything but woodland work. In a garden it would soon become a nuisance; in a covert, on the contrary, it is a most beautiful ground plant. Being a native of the coldest districts of Japan and of the island of Yezo, it is perfectly hardy. The name *metallica* is a translation of the native Japanese name."

PHYLLOSTACHYS CASTILLONIS.—This pretty and distinct Bamboo has larger leaves than many other species, as on the more vigorous shoots they are as much as 8 inches or 9 inches long and nearly a couple of inches wide. They are prettily striped with creamy white, while the sheaths of the branches are pink. The stems are very much channelled, owing to the pressure of the branches before they develop, these channels being green, while the rest of the stem is yellow. It is certainly worthy of a place among the best of our hardy Bamboos.

PHYLLOSTACHYS FULVA.—This forms a spreading tuft of gracefully-disposed shoots clothed with long lanceolate leaves dark green above and slightly glaucous beneath. The slender stems are yellow, as in *Phyllostachys* (*Bambusa*) *aurea*. It has been recently introduced from Japan by Mr. Freeman-Mitford, by whom it was exhibited. Of the six Bamboos above mentioned, the first, *Arundinaria nitida*, was awarded a first-class certificate, while the remaining five received awards of merit, all on July 26.

BUDDLEIA VARIABILIS.—In the cut specimens shown the leaves were lanceolate, deep green above and whitish beneath. The flowers, which are borne in small clusters, thickly disposed along the points of the shoots for a foot or more, are of a rosy purple tint with an orange eye. In habit, foliage, and flower, however, there are so many individual differences, that the specific name of *variabilis* is particularly appropriate. It is a native of Central China and Eastern Tibet, and is but moderately hardy in this country. It flowers for some time during the summer, and received an award of merit on July 26.

ACER NEGUNDO ELEGANS.—A vigorous form in which the young leaves are heavily margined with clear yellow; the centre, too, is of a pale shade of green. In the mature foliage the yellow changes to a creamy tint, while the green portion becomes more decided. It is quite distinct from the ordinary variegated *Negundo*, and a first-class certificate was given it on September 6.

POPULUS ONTARIO VARIEGATA.—The heart-shaped leaves of this Poplar are deep green, splashed to a varying degree with golden yellow, but though some of the individual leaves are very pretty, as a rule variegated-leaved trees are seldom satisfactory.

ACER JUHLKEI VARIEGATUM.—Much the same may be said of this, which is a form of the North American *Acer dasycarpum*, in which the leaves are irregularly variegated with white. This and the preceding received awards of merit on September 20.

HIBISCUS SYRIACUS TOTUS ALBUS.—Last year the first two varieties ever recognised by the Royal Horticultural Society, *coelestis* and *Painted Lady*, were given awards of merit, and this year another must be added, viz., *totus albus*, with pure white single blossoms. It is in no way a novelty and is kept in stock by most of our tree and shrub nurserymen. In any selection of the best varieties of this *Hibiscus*, this pure white variety must have a place. T.

Hypericum olympicum.—It is said of this species on page 492, "It is only hardy enough to withstand our mildest winters." This is a mistake. I have grown it in this cold garden on cold clay soil for more than twenty years, and

have never known it to be killed by cold. Few of the ornamental *Hypericums* are perfectly hardy here, but this is one of the hardiest. It is, however, short-lived; the shrubby base after flowering for two or three years becomes so hard and woody that it cannot break freely, and the shoots get strangled by the imperfect passage of sap from the roots. If not cut down in autumn, I find seedlings come in abundance from self-sown seed, especially on gravel walks if the plant grows near them. These may be transplanted easily when young, and supply a plentiful succession. I daresay this summer I had a hundred flowering plants of this kind in different parts of the garden, mostly left where they came up. The reason of the comparative scarcity of *H. olympicum* in gardens is not its tenderness, but because gardeners do not take the trouble to replace it at the end of its short life, which may be done either by cuttings or by seed. The plants are generally cut down in tidying the herbaceous borders before the seeds are ripe—a mischievous process by which many good plants are lost.—C. WOLLEY-DOD, *Edge Hall, Malpas*.

NOTES & QUESTIONS.—TREES & SHRUBS.

Cotoneaster frigida.—This is not often met with. Recently I saw a fine plant standing near the front door on the verge of a shrubbery at Montacute House, near Yeovil. At the time of my visit there was an immense lot of berries on it. The tree was from 25 feet to 30 feet high.—J. CROOK

Magnolia grandiflora not flowering.—A neighbour of mine has, against the south wall of her house, a beautiful *Magnolia* tree 20 feet high and about twenty-five years old. It has never flowered. The soil is red sandy loam, but the roots run under the gravel walk. Can you suggest what it wants?—JUNIA.

NOVEMBER IN SOUTH DEVON.

DURING the past month rain to the extent of 3.99 inches has fallen on fourteen days. In November, 1897, there were twelve rainy days, on which 1.25 inches fell, while the average for the month is 3.91 inches. In the eleven months of the present year now elapsed 23.83 inches of rain have fallen on 128 days, while for the corresponding period of 1897 the rainfall was 29.12 inches with 152 wet days. The average for the first eleven months of the year is 30.89 inches, and the average for the whole year 34.54 inches, so that with December's rainfall to add we are rather over 10½ inches behind the yearly average. Although November, 1897, was so considerably drier than the past month, it was far inferior as regards its sunshine, only 33 hours 55 minutes being registered against 56 hours 40 minutes in November, 1898, while the average for the month is 61 hours 5 minutes. During the first eleven months of the present year the sun has shone for 1667 hours 10 minutes, the average for the period being 1655 hours, and the record for the similar period in 1897 1627 hours 15 minutes. The 1st of the month was a very sunny day, 83.2 per cent. of the possible sunshine being experienced. The mean temperature of the month, 49.4°, is exactly the same as that of November, 1897, which is rather more than 2° above the average mean temperature of 47.3°. The highest sun temperature was 95.9° on the 1st, the highest in the screen 62.9° on the 16th, the lowest in the screen 30.2° on the 23rd, and the lowest on the grass 26.5° on the same date—the first frost of the winter of 1898-9. On four days the mercury on the grass fell to 32° or below. The total horizontal movement of the wind has been 5545 miles against 6621 miles in November, 1897. The greatest daily run was 579 miles on the 2nd, and the highest hourly speed was attained between the hours of 11 and noon on the same date, when a velocity of 34 miles per hour was registered. On seventeen days the direction of the wind was from south to west. The mean amount of ozone in the air was extremely small, only 40.7 per cent. being registered for the month. On no day was more than 60 per

cent. recorded. The humidity was 87 per cent. against 85 per cent. in 1897.

The autumnal tints have in this neighbourhood been unusually poor in colour, and though some great Beeches showed copper-red towards the middle of the month, their display was markedly inferior to that of former years. By slow degrees the Elm leaves yellowed and fell one by one without affecting the green colouring presented by the remaining foliage; indeed, it is not till the present time, towards the end of the first week in December, that the big Elms in the valley have donned their raiment of light gold, a scanty vestment, for more than half their leaves have already fallen, while their sisters on the hillsides are bereft of all vestige of foliage. In the early part of the month the Virginian Creepers were at their brightest, and it was perhaps merely a suggestion of the imagination that caused one to fancy that their tints lacked something of their usual brilliancy. After the leaves of *Vitis* *inconspans* had fallen, some walls were almost purple with the crowded berry-clusters. *Clematis Vitalba* (Old Man's Beard) is very beautiful now, many large trees being festooned with its feathery grey trails. From the lofty boughs of a great Ash its swaying stems hang down in a twisted loop like lianas in a tropic forest, while the olive-green foliage of a spreading *Ilex* is wreathed to its topmost spray with the downy seed-vessels. The Spindle Tree berries are past their best, but the scarlet-fruited skeins of the *Bryony* still hang here and there in the hedges. The swallows and martins did not all leave us in October, for on rainless days a few of both were to be seen, and on the 11th I counted no less than twelve martins hawking, at some height in the air, over one field. The robins and wrens are now much in evidence around the house, and are continually entering at the open windows. Their sweet, subdued songs have a sense of cheery homeliness in their notes that is absent from the elaborate carols of more noted songsters. Wrens are particularly partial to green-fly, and consume an enormous number of these pests. The other day I was watching the actions of a couple of these birds in a large *Chrysanthemum* house as they systematically searched plant after plant for their prey, examining the upper and under sides of the leaves and peering among the petals of the blooms lest a single insect should escape them. A green woodpecker has lately taken to visiting a steep and rather mossy bank, not more than 15 yards distant from the house, every morning shortly after dawn. He is evidently hunting for insects of some description, as he digs his strong beak vigorously into the bank and scrapes the Moss down. He, presumably, has "good hunting," as he returns morning after morning and has already scarified several square yards of the bank. In the middle of the month I saw a handful of very fair Strawberries that had been picked in the open, as well as a few fine Raspberries, while several young Apple trees were bearing rosettes of expanded blossom. On the night of the 27th, about 10 p.m., a sharp thunderstorm, with vivid lightning, broke over the immediate neighbourhood. In some parts there was a deluge of rain for a short time, while in others very heavy hail fell in such quantities that, although there was no frost, some was still visible on Monday night. A good deal of damage was done to Lettuces by the hail, their leaves in some cases being cut to ribbons. During the early days of the month, in a stroll around some neighbouring grounds, I came across, in an open glade, a large specimen of *Spiraea Lindleyana* surrounded with numerous self-sown seedlings. There is a large plant of the same *Spiraea* in my garden, but no seedlings have ever appeared around or beneath it.

In the garden the Sweet Alyssum was still in blossom at the commencement of the month, and the first flower opened on the bed of Poppy Anemones, while *Aster grandiflorus*, with its large purple flowers, was a mass of deep colour, and *A. Amellus* *bessarabicus*, that commenced to bloom in August, still held a few decorative flower-sprays. Here and there *Carnas*, that had been

left out so late, showed a spike or two of bloom, but it is generally wiser, except in cases where these can be left out permanently, which happens only in sunny, sheltered spots and in porous soil, to lift at an earlier date, especially where it is the intention to start the plants into growth in March for a summer display in the beds, as a longer period of rest is thereby obtainable than if the plants are left in position until cut by the frost. The dwarf, large-flowered Crozy Cannas should, where practicable, be potted and kept in a slightly moist condition during the winter rather than dried completely off, as their constitutions are not so hardy as are those of the older and more vigorous-habited Cannas. On the railway embankments and rocky ledges the varieties of Valerian (*Centranthus ruber*) still show a few spikes of bloom, pink, white and red. The great Christmas Rose (*Helleborus altifolius*) expanded its first blossom on November 10, eighteen days later than in 1897. A few flowers still remained on *Coreopsis grandiflora* early in the month, and tall plants of *Cosmos bipinnatus* had their Fennel-like leafage thickly set with simple star-flowers of white, pink and intermediate shades, those with white flowers being by far the most attractive. Some of these plants attain a height of over 6 feet and have a branch-spread of between 3 feet and 4 feet. Such should have a strong Bamboo stake driven into the ground close to their main stems early in the autumn, to which the stem can be loosely fastened, in order to prevent the damage which will otherwise occur during October gales. No attempt at staking after the event can be satisfactory, the injury to the sappy shoots being usually too extensive to permit of artistic rearrangement. In sheltered corners *Crinums* were to be seen in bloom through a great portion of the month, but where exposed to the wind and rain they soon lost their attractiveness. The first frost puts a premature end to the already waning display of the *Dahlia*s. Here and there a few blue flower-spikes, travesties of their summer show, were to be described on the *Delphinium*s, while great gold stars appeared at infrequent intervals on the clumps of *Doronicum plantagineum* excelsum. In some gardens *Erigeron speciosus* bloomed well into November, its first appearance having been early in June, a blooming period of five months. The Mexican Daisy (*E. mucronatus*) is an even more persistent bloomer, as, while commencing its flowering period in May, it is still in bloom at the present time in warm, sheltered spots on light soil. *Fuchsia Riccartoni* continued to bloom until the advent of the first frost, and at the commencement of the month a few tall flower-spires of the Cape Hyacinth (*Galtonia candicans*) were here and there to be seen. The *Gaillardia*s continued to bloom sparsely up to the second week of November, and the *Gentianella* to produce an occasional deeply-blue flower, while *Geranium sanguineum* and *G. striatum* were not entirely blossomless. The *Hydrangeas* remained decorative until well into the month, and *Hypericum Moserianum* bore its yellow flowers throughout November. Early in the month the beautiful *Iris stylosa* produced its first fragrant lavender-blue blooms, and has since then been flowering abundantly and affording many an artistic bowlful for indoor decoration. Unfortunately, slugs and snails evince a great predilection for these fair blossoms, which should therefore be picked in the bud state before the petals have commenced to expand. Here and there a solitary glowing flower-spike of the *Kniphofia* has been noticeable, and the great bushes of Paris Daisies, which in sheltered situations have not been cut by the frost, are still starred with a few infrequent white blossoms, while some of the *Pentstemons* flowered through the first two weeks of the month. The Winter Cherries (*Physalis Alkekengi* and *P. Franchetti*) showed brightly where they had not been already gathered for arranging in the house, while occasionally the unwonted scarlet of some belated Oriental Poppy flamed incongruously from the rain-sodden border. The Tea Roses have afforded a few blooms through the month, sadly washed

out and scentless, however, except when gathered from sheltered walls. The single blossoms of the white Macartney Rose, on the other hand, have not suffered so from the effects of the weather, and have expanded at intervals throughout the month, and this morning (December 5) I picked a perfect half-opened bloom. Late seedlings of *Scabiosa caucasica* have borne their pale blue flowers, while in the earlier portion of the month the Winter Flag (*Schizostylis coccinea*) on warm, elevated borders bore a profusion of its vivid crimson flower-scapes. In a sheltered corner I saw a specimen of the African Hemp (*Sparmannia africana*) bearing great clusters of its white, golden-anthered blossoms. The Winter Daffodils (*Sternbergia lutea*) continued their October display, producing their golden Crocus-like blossoms in quantity, and the purple *Stokesia cyanea* was still flowering early in November. The *Vincas*, single and double, have been in bloom, and the *Violets* are bearing their scented blossoms, but far more charily than was the case during the corresponding month of 1897. An occasional untimely ivory-white flower-spike was to be seen on plants of *Yucca gloriosa*, and a few brilliant vermilion blossoms were left on plants of *Zauschneria californica*, which, however, have not flowered so abundantly this year as has been the case in former seasons. This plant appears to be a rather capricious subject, sometimes entirely refusing to grow, or, if it grows, to flower, even when soil and situation seem eminently suited to its requirements, and at other times growing like a weed and flowering profusely under apparently unsuitable conditions. Probably a sunny position in the rockery and a soil of sandy loam should meet its wants as well as any that can be suggested, while a site on the level ground and a soil that is heavy and adhesive would not be considered most conducive to its successful culture: yet I have seen it growing vigorously and flowering profusely under the latter conditions, while I have known it refuse to flower under the former seemingly more favourable ones. Several annual flowers, amongst which may be mentioned *Eschscholtzias*, *Stocks*, crimson *Linums*, blue *Cornflowers*, and annual *Chrysanthemums*, added their quota to the meagre floral display of November.

In Mr. Archer-Hind's garden at Coombe Fishacre several *Crocuses* have been in flower, the most notable of which at the time of my visit were *C. pulchellus* and *C. p. albus*, *C. Cartwrightianus* *albus*, *C. lavigatus*, *C. ochroleucus*, *C. Tourneforti*, *C. tingitanus*, and *C. sativus*. The pale yellow *Gladiolus tristis*, of which I wrote in my April notes, had thrown up strong leafage considerably over a foot in height, and numerous seedlings are coming up around the clumps. This *Gladiolus* is not the *G. tristis* (*Botanical Magazine*, 272) which is probably identical with that illustrated on page 301, vol. lii. of THE GARDEN, although the ground colour is given as white-green in the first instance and lemon-buff in the second, but is *G. tristis* (B.) *Bot. Mag.*, 1098. At the commencement of the month *Cobaea scandens* was still blooming, as were *Tropaeolum tuberosum* and the climbing scarlet *T. Lobbianum*, but none of these withstood the effects of the first slight frost. A few flowers still remained on *Eccremocarpus scaber* in the early days of November. A fine specimen of *Abutilon vexillarium* was in full bloom against the house, whilst during the early part of the month *Convolvulus Cneorum* had been covered with blossom. *Iris cretica* as well as *I. stylosa* had commenced to flower, and *Senecio pulcher* was bright with bloom, while a large plant of the blue-grey *Vinca acutiloba* was coming into profuse flower.

TREES AND SHRUBS.

But few flowering shrubs have been in blossom. Here and there the Mexican Orange Flower (*Choisya ternata*) has been bearing the remnants of a second crop of bloom. *Colletia cruciata* has had its spiny branchlets covered with minute white blossoms, and the crimson berries of *Cotoneaster microphylla* begin to show more clearly amongst the dark foliage, while *Cytisus fragrans* may be seen,

in some sheltered nook, furnished with a scanty supply of golden flower-racemes. The *Habrothamnus* still bears its crimson bloom-clusters, and the double Jew's Mallow (*Kerria japonica* fl.-pl.) bears its orange-tinted flowers against a cottage wall. The *Laurustinus* blooms are gradually assuming whiter discs and many of the shrubby *Veronicas* are flowering, while the great standard *Magnolia* tree, which expanded its first fragrant white chalice on June 15, produced its last of some hundreds on November 22. *Jasminum nudiflorum* did not commence its period of bloom before the middle of the month. The orange fruits of the Passion Flower are particularly decorative, a larger number than usual having developed during the past autumn, some old plants that have spread their foliage over the entire fronts of houses being thickly strung with the gleaming ovals. *Solanum jasminoides* has flowered throughout the month, and, being sheltered by the eaves of the house, received no damage from the frost. Since the first white bloom-cluster opened in April it has flowered uninterruptedly and profusely until the present time, and bids fair, should no harder frosts supervene, to remain in flower till mid-December or later. S. W. F.

CHRYSANTHEMUMS.

NOTES ON CHRYSANTHEMUMS.

On the whole, notwithstanding the rust, the *Chrysanthemum* season now drawing to a close has been a fairly good one. In the various sections some few varieties have stood out from their fellows as being particularly good. Among those which have been the best of those grown for large flowers are *Pride of Madford*; *Mrs. F. A. Bevan*, a fine addition to the flesh-tinted varieties; *Matthew Hodgson*, a well-formed true Japanese, crimson-chestnut in colour, the best of those which have flowered here for the first time this season; *Joseph Chamberlain*, another fine crimson; *Belle Mauve*, a lovely flower, whose only fault is that of having a weak stem; *Oceana*, a fine incurving Japanese with rather broad petals, the colour a clear butter-yellow; and *Sunstone*, an incurved Japanese, a good flower, but with me the petals were much addicted to damping. *Mrs. H. Weeks*, one of the very best whites when seen in good form; *Commandant Blusset*, very striking in its deep carmine-lake colour, and of good form; *Khama*, one of the best of the crimson-chestnut coloured varieties, always a good grower, but rarely seen at shows as it is rather late in flowering; *Edith Tabor*, well known; and *Australian Gold*, a good pale straw-coloured flower, have also been first-rate. Of old varieties good this year are *Edwin Molyneux*, *Golden Gate*, *Mme. Marius Ricoud*, *G. C. Schwabe*, *Eda Prass*, and *Charles Davis*. *Mme. Carnot* and *Good Gracious* may be put down as quite the failures of the season, but, curiously enough, both the yellow and the primrose coloured sports from the former have been seen in the neighbourhood in grand form.

The useful varieties which adapt themselves to the bush form of growth, and especially those which produce erect and good sprays for cutting, are on the increase and are being better looked after by those who have much cut-flower work to do, and who find out that those only which assume such a habit, under good culture, are of much service. Good varieties of this type include some of the oldest as well as some of the newest of *Chrysanthemums*. The increase in popularity of these decorative varieties has induced the schedule committees of various societies to include classes for them in their schedules, and this is a step in the right direction, especially when the exact number of

sprays admissible is stipulated, for by this means it can easily be seen which are the best and the most economical for growing in spray form. The best I have found up to date are Clinton Chalfont, Source d'Or, Golden Gate, E. G. Hill, Challenge, Aigle d'Or, M. Garnier, Mrs. Filkins and Mrs. James Carter, among the yellow and pale bronze varieties; L. Canning, Fleur de Marie, Mrs. Cullingford, Boule de Neige, Niveum, and Florence Piercy, among the whites; Tokio, Wm. Holmes, Val d'Andorre and Black Hawk in crimsons and chestnuts; Cottage Maid, Roseum superbum, Mme. Marius Ricoud, Mme. de Sevin, Commandant Blusset, and Marie Stuart in varying shades of lilac. Yellows predominate, and this is probably the most useful all-round colour. A word, in passing, as to L. Canning. Many fail with this, but if grown on two-year-old plants it is still the best late white in existence for sprays. Tokio remains the best crimson for those who are content with small flowers. From a large collection of singles, I select the following as being the best, but I may add that seedlings have added to this class some very good things, and as I find that seedlings in their first year flower later than do plants propagated from cuttings, a batch of them is well worth the trouble of growing, even though nothing better than those in stock before is raised. It is pleasing to see how single Chrysanthemums are rising in public estimation, and it is not to be wondered at, for, given clear and distinct colours, no others have quite the same light and graceful effect when used in a cut state. A good many of the older ones have been weeded out either from their washy colours or from faults of habit. Of whites, Mary Anderson, Virgin Queen, Snow Wreath, Snowdrift, and Mrs. A. E. Stubbs (creamy white); of yellows, Kate Hawthorne, Buttercup, and Miss A. Holden, the last a yellow sport from Mary Anderson; of crimsons and chestnuts, Miss Crissy, D. Windsor, and Annie Tweed; and of pinks and lilacs, Emily Wells, Prolific, Mrs. D. B. Crane, and Best of All, a very late variety, I find the best.

J. C. TALLACK.

Chrysanthemum Matthew Hodgson.—There are so many white and light-tinted blossoms among the Japanese forms usually exhibited in a cut state, that bright-coloured flowers attract attention not only by reason of their own merit, but also from the fact that they stand out in a decided manner from their associates. Such an one is Matthew Hodgson, which at the Aquarium on December 6 was one of the most conspicuous varieties exhibited. It was, I believe, raised by Mr. W. Seward, of Hanwell, who has given us so many beautiful forms. Earlier in the year the variety Matthew Hodgson produces blossoms of a rich crimson hue, but the majority of those shown were, from the lateness of the season, somewhat paler than usual.—T.

Rust on Chrysanthemums.—The reply to Mr. Tallack concerning the method employed by Mr. Wythes to free his plants of the so-called rust will, I fear, not prove a very instructive one. It was clearly stated in the notes that a few specks had appeared and were as promptly destroyed. In other words, the moment it was detected careful search was made and the leaves collected and burnt. As no further trouble was experienced, it may be assumed the attack was either a very slight one or that the fungus was detected early enough to prevent its spread by means of mature spores. The affected plant was a recent addition. When the notes were taken at Syon the entire collection was in perfect health and enjoying complete immunity from any disease. This was apparent on the first view by the fine vigour and general condition of the plants,

and abundantly supported by the splendid display of blossoms. As previously stated, Mr. Wythes is a great believer in soot-water for syringing, &c. How far this was an influence for good would be difficult to determine.—VISITOR.

Chrysanthemum shows in Italy.—That interest in the Chrysanthemum is steadily increasing in Italy there can be no doubt, and this is very largely due to the enthusiasm of Mr. H. Briscoe-Ironside, who has been resident on the banks of the Lago Maggiore for some years. Italian nurserymen and gardeners are now busy raising new seedlings, and of these M. A. Scalandis, gardener to the King and the president of the new Italian National Chrysanthemum Society, is one of the leading lights. During the past season shows have been held at Milan, at Turin, and also at Pallanza. The Turin show was a great success, and pot plants were largely shown. On the first day the King and Queen paid a visit to the show, and the greatest enthusiasm appears to have been excited. There was also an exhibition at Pallanza, and both at this and the one preceding Mr. Briscoe-Ironside was a successful exhibitor and prize-winner.—C. H. P.

Pretty little Chrysanthemums.—A small group of Chrysanthemums, great favourites of mine, are those with thread-like petals, of which Mrs. J. Carter is one of the best known examples. It is well adapted for growing in bush form, and where cut flowers are in demand this variety is one of the most productive we have, there being so much of the cut-and-come-again character about it. The colour is a kind of pale sulphur-yellow. There is another form somewhat in the same way as this, viz., Alice Carter, the flowers of which are reddish brown and yellow. In Mrs. Filkins the flowers are of a bright yellow colour, quite distinct from either of the preceding. A large quantity of a white variety, Annie Harvey, was shown at the meeting of the National Chrysanthemum Society on December 6, and a goodly show it made. Mrs. W. Butters, too, is a pretty white not far removed from this class, while quite distinct from any of the others and a great favourite for cutting is King of Plumes, a rather solid flower, but with the points of the florets notched and slashed, thus doing away with any formality. This variety is of good free, sturdy growth, while the colour is an intense rich golden yellow, extremely effective. For furnishing vases and such purposes it is one of the best.—T.

Chrysanthemums in the open.—The absence of frost has been favourable to early-flowering Chrysanthemums, and first-rate displays have been noted in many places. At Folkestone and Hythe during the middle of November they were particularly noticeable. It is a pity, however, that better kinds do not take the place of many of those seen. Thus the dull purple-coloured Lyon filled big patches in many instances, and the Christines, reflexed forms in white, buff, and pink, were very much in evidence. In several gardens Source d'Or was flowering abundantly, and this one good sort stood out most effectively among other indifferent kinds. There is plenty of material in this class now to provide most of the shades of colour required. In whites we have Mme. Desgrange and Lady Fitzwygram. Good yellows are G. Wermig, Orange Child, and Flora, the last a small bloom, but very effective in a mass. Pink is supplied by the varieties Mme. Marie Masse and O. J. Quintus. Mme. Eulalie Morel has blooms of a pretty cerise shade. In bronzes we have Ivy Stark, M. Dupuis, Comtesse F. de Cariel, and the somewhat late-flowering Ryecroft Glory. For dark colours, select Ambroise Thomas, Harvest Home, Roi des Précoques, and Coral Queen.—H.

NOTES AND QUESTIONS.

Chrysanthemum Soleil d'Octobre.—This variety, which was introduced last year, is a distinct addition among yellows. The colour is soft and bright, the growth dwarf and sturdy. It produces

immense blooms when disbudded, and being so free bears an immense quantity of smaller flowers.—S.

Chrysanthemum Australie.—Judged from any standpoint, I think this must be considered the ugliest Chrysanthemum which has been sent out in recent years. Its enormous size has found for it a place on many exhibition boards this year, and I suppose it must for the present be looked upon as one of the "indispensables" for that purpose, but it has positively no beauty whatever that I can discover, and few people would ever take a second look at it for anything but its size.—J. C. T.

GARDEN FLORA.

PLATE 1202.

PLACEAS.

(WITH A COLOURED PLATE OF P. ORNATA.)*

THE genus *Placea* is a small group belonging to the *Amaryllidaceæ*, and, as may be gathered from the accompanying plate, is closely allied to *Hippeastrum*. In some points, however, and those of culture more particularly, in so far as the resting and starting are concerned, the *Hippeastrum* may be cited as an example, inasmuch as one special condition in the cultivation of *Placea* is that it must have a complete season of rest. The few species known to cultivators, and which at present represent less than half a dozen kinds, are noteworthy by their peculiar and interesting rather than showy characters. Usually the bulbs are small, not larger than a Walnut, the outer coverings dark and glossy. *Placea* is found at high elevations in the Andes of Chili, and the plants can scarcely be regarded as hardy in this country. But, like many other things from the same locality, the protection required is but little so long as frost is kept off. In these respects these interesting subjects may be cited on a par with *Nerine*, and where pot cultivation is resorted to, may be given almost the same treatment so far as temperature is concerned. Frequently, however, from the unusual depth at which these plants are found in the earth in the wild state, pot culture is not the best for them. Much the best method where a collection of Cape and other bulbs is grown is to set apart a small frame against a hot or sunny wall. By first grouping the plants together in regard to the season of flowering, a difficulty will be overcome which is of vital importance to many of the lovely bulbous things from the localities named, and of which cultivators generally know so little. In this way the resting period as well as the starting may be rigidly enforced, and the depth of planting where this is a necessity likewise adopted. There is, however, no reason why these interesting subjects should not be grown in pots, provided due care be given the bulbs after flowering. One objection to pot culture in the present instance is, that unless a somewhat deep pot is employed no covering, or at least an insufficient one, can be given. Moreover, many similar things delight to have their bulbs on the surface or nearly so, and it is not unlikely that these *Placeas* would be so treated by anyone taking them for the first time in hand. In this respect, however, they differ, and, like the *Narcissi* and other such things, are best suited in this country when buried an inch or two in the earth. Concerning their culture generally Herr Max Leichtlin says:

Placea is one of those bulbs which will not be pot-bound. I either plant them in a walled

* Drawn for THE GARDEN by H. G. Moon in Mr. Perry's nursery at Winchmore Hill. Lithographed and printed by J. L. Goffart.

frame which is kept free of frost, or in a low house which has a border on the south side, and is kept at 37° or 40° Fahr. at night, and leave them alone. They go to rest about August and push about December, flowering in May. In a pot they ought to have their exact time of rest, and must be buried in the soil, which ought to be very rich, but in pots they are not certain to flower. They must be planted with at least an inch of soil over their necks, and they prefer a loose soil. I use thoroughly decomposed cow manure (three and four years old), mixed during decomposition with one-third silver sand.

From a circular issued by Mr. Amos Perry, Winchmore Hill, who has this season been distributing a large importation of *P. ornata*, we gather that this species "is found deep in the ground and growing in the most exposed places." One of the chief characteristics of *Placea* is the very distinct though equally perfect evolute corona or cup, in which respect the group more nearly approaches *Narcissus*, resembling the *Hippeastrums* in the divisions of the perianth, these being almost at right angles with the cup. The following are the best members of this interesting group:—

PLACEA ARZÆ.—With pale yellow flowers, lined with purple, and flowering at 1½ feet high when fully established.

P. GRANDIFLORA.—White, striped with crimson, the scape terminating in an umbel of several handsome flowers, leaves long and somewhat rounded.

P. ORNATA.—The kind given in the coloured plate to-day has nearly pure white divisions, each of which is heavily and freely, though irregularly, lined with rich reddish scarlet. The scape attains to nearly a foot high and is said to bear from twelve to twenty of its interesting and pretty flowers. From flowering examples I have seen, however, but which may not be regarded as from established bulbs, the scape was less than 9 inches high and the flowers were about three on the umbel. Doubtless, when well established this number would be greatly increased. I am of opinion, however, that *P. grandiflora* is sometimes imported for *P. ornata*, as my plant, which did not flower this season, is more distinctly related to the former by its more rounded leaves, not unlike those of a small *Narcissus Jonquilla*.

These are the most distinct and at the same time the most deserving of cultivation. Flowering examples of *P. ornata* have this season been exhibited at the Royal Horticultural Society's meetings by Mr. Perry. The same species was also noted in bloom in the No. 7 range at Kew in the early summer. E. J.

Wood ashes.—Of all manures commonly termed artificial, these are, perhaps, the oldest, and as "A. W." has so well shown, still among the best. Burning may not be the most economic way to deal with soft vegetable matter, as in a few months it can be rotted by stacking and moistening. Experience shows that it is very valuable plant food, as all gardeners, especially those whose supplies of animal manure are small, have found to their benefit. In deeply-worked soil splendid crops are commonly produced by the aid, almost exclusively, of decayed vegetable matter. But hard wood broken up ever so small and buried in the soil would be long in decomposing, and would in the process promote much harmful fungoid growth. The conversion of this hard, and, so far as plant food is concerned, useless material into an active manure by burning is a simple process. Wood ashes may not be so rich in potash as kainit, but at least they constitute a singularly safe dressing, not only because of the potash they contain, but because the ash does not immediately dissolve and helps to keep the soil open and friable. No one now advises the making of Vine or other fruit borders without a liberal addition of wood ashes,

and all gardeners alive to their manurial value collect and burn all woody matter not otherwise useful for the purpose. The majority of gardeners agree that we have few artificially produced manures more valuable or desirable than are wood ashes, soot, and lime.—A. D.

THE WEEK'S WORK.

HARDY FRUIT.

BIRDS AND BUDS.—I find that already the Red and White Currants are being attacked by the tit family in a most persistent manner. I do not know if others have observed their propensity for Currant buds to the same extent, and that comparatively early in the winter. During frost and snow there is some excuse to be made for these depredations, but with the mild weather other food should not be scarce. It is the case every year at this time, and often earlier that my bushes are attacked. These depredators are not satisfied with the topmost buds, but go immediately for those at the base, hence the crop for another season is affected if close spur-pruning is resorted to. Last year I was sorely tried by the damage done, so much so that I had to resort to shooting in order to save the trees. This had the desired effect. Sometimes when there may happen to be a store of old netting, this is laid lightly on the bushes. This had the desired effect for a season or two, but the birds became used to it and went under or through the holes. The subject resolves itself into one of two things: either the trees as fruit-bearing subjects must be sacrificed, or the birds, in spite of the Wild Birds' Protection Act, must be kept in check by some means or another. There is beyond any doubt far too much sentiment at present existing upon this subject in favour of the birds. I have tried lime mixed with size and water as well as dilutions of paraffin, but as these are washed off the attack recommences. Fortunately for me, the Gooseberries escape, as the finch family is not over plentiful, neither are these fruits troubled with the caterpillar. All who may have rested, as it were, in the matter of birds and buds will do well to keep their eyes open, for when an attack commences it increases rather than otherwise, as the few which begin the work of destruction are the means of bringing others with them to increase it.

PRUNING BUSH FRUITS.—Various opinions obtain as to the best time for seeing to this work. Some, with the commendable caution born of a desire to leave nothing in arrear, push the pruning forward early. On the whole I prefer to leave it until January, or even a week or two later if the weather be severe. For reasons already given my practice is apparent; in fact, if I were to prune early in the case of the bush fruits I might have cause for regret before the winter was over. One occasion in particular occurs to me even now, when the Gooseberries were laden with snow except the uppermost branches. As the snow lay for a long time the birds became short of food, and in consequence the Gooseberry bushes fell a prey to them. The experience thus gained has served its purpose since. As regards the pruning of Gooseberries, a study of the habit of several kinds will serve a good purpose. The strong growers should not be pruned too very severely, but be treated more upon the extension system by letting them become twice or thrice the size of medium growers. These latter, on the other hand, may advantageously be pruned closer and more upon the spur system. Should any be inclined to grow too strong, a check may be effected by means of the spade when breaking up the ground after pruning. Close spur pruning in the case of most of the Red and White Currants is the best, but there are a few of the largest bunched and berried varieties which bear very freely if treated a little more leniently in the pruning. The time-honoured method of thinning out the old wood of Black Currants is still the best, and if fine fruits are aimed at rather than a greater weight of smaller fruit, it may

even be done more freely still. Should there be any symptoms of the Currant-bud mite, the best plan is to use the knife severely, not leaving any symptoms of it upon the bushes. If this were persevered in, it might be possible to reduce if not to exterminate it. In extreme cases, however, the advice is to uproot them and plant afresh, as it will not pay to have valuable land unproductive. The precaution should, however, be taken of planting the fresh and clean stock as far as it is practically possible away from the infected bushes. Raspberries I prefer to give attention to before the Currants and Gooseberries, as birds in this instance have not to be reckoned with. Guard against overcrowding, not leaving too many shoots to each stool. The best plan I consider is to secure them to wires or stout tarred string in continuous lines rather than in separate clumps, the young growth receiving more benefit in the former than in the latter instance from light and air. There is no real gain in leaving the shoots to an excessive length; it only means more bare stem upon what is otherwise the strongest wood. Where any stools show signs of weakness it will be advisable to thin them more freely, or if very far gone, to destroy them and make up again by dividing the strongest ones. If this be done, see that all such newly-planted stools are well mulched and watered too. The extension system is also the best method of dealing with the choicer Blackberries, notably the cut-leaved variety, which, in spite of novelties much belauded, but of doubtful merit, is still the best, especially for late bearing. After the pruning is completed, take the first opportunity of forking or digging the soil, adding manure with discretion—i.e., if the growth is robust enough and the produce good. A light dressing will be sufficient, for it is simply waste to dress heavily and then, as it were, cart it away again afterwards in superfluous shoots. If a good average dressing of farmyard manure be applied one season, in another it might be modified by a dressing of either lime or bone-meal. If the Raspberry plantation be in such a position as to suffer from drought during the summer, it will be advisable, in addition to forking over the ground, to mulch it afterwards. In moving some ground only a few days back I noted it was dry in places. If this be the case in any instance, do not hesitate to empty the liquid manure tanks upon the ground the first opportunity that occurs. Even Strawberries upon dry land might be treated thus without any fear of the results.

MULCHING.—The beneficial effects of mulching have been alluded to frequently. The prolonged drought of last summer and early autumn was an instance of the good accomplished by mulching. It may, where practicable, be pushed forward through the winter, especially when the ground is hard enough to bear the weight involved during a frost. Do not omit either to mulch all newly-planted trees, and even if need be water them again. Should the mulch in any instance be deemed unsightly, it can easily be covered lightly with a little soil; in fact, this is a very good practice to follow in trim, well-kept gardens. Another advantage in mulching is evident in shallow soils, where the roots are often nearer to the surface than in deep, rich loam. The roots in such an instance suffer from both drought and cold, neither extreme of which can be beneficial.

BORDERS FOR FRUIT TREES.—In some instances, especially in low-lying districts, the important work of draining, so as to avoid stagnant water, is a factor not readily to be passed over. Overluxuriance of growth sometimes is caused by this alone, especially where the soil is, in addition, of good quality. During such a dry season as the past has been the roots of many trees have been compelled to descend by reason of want of moisture above. This at the time may not do any harm, but it may do so, however, when a heavy rainfall occurs. Each case, by close observation, should be treated according to its requirements. The concreting of borders in soils of considerable depth, but not of the best fruit-producing quality, will ultimately pay, such, for instance, as in that

of Peaches and Nectarines as well as Apricots in a notable degree. In limited borders the growth can be kept more under control. Successful instances of Apricot culture occur to me at this moment, where by concreting the borders the best results were obtained. The one chief thing to take note of afterwards is to ensure an immunity from drought. It may be urged against this that it involves more labour, but better so than to have unproductive trees. HORTUS.

KITCHEN GARDEN.

GENERAL WORK.—Much may be done now to arrange next season's cropping. I prepare large wooden labels and write thereon the names of crops. The labels are placed in the quarters and at planting or sowing it is only necessary to add the date. By selection of quarters now anyone may better give the most suitable position for the crops. Land infested with wireworm will need special dressing and change of crop also. Ground for early crops should now be ready for the same. It will be well at an early date to clear off any infested crops of Brassica and give the soil a thorough rest from the same kind of crop. It is important to get land turned up to allow the weather to sweeten the soil. Now is a suitable time to select the vegetable seeds needed for another year's supply. The seed lists are now to hand, and the early orders receive the best attention, often getting the kinds needed and not others substituted for those not in stock. To save valuable time at a season work is pressing, I would now advise securing and preparing Bean and Pea sticks needed for another season. In country districts brooms are often made in the garden in wet weather, and a stock of Birch should be cut and then placed under cover. I am now repairing the thatched hurdles, which are invaluable for covering and protecting in the early part of the year. They are more efficient than mats and tidier. The Potato store will need attention where quantities of seed are in stock. For the earliest plantings I am placing the sets in shallow boxes ready for the work. Any sets needed for forcing may be placed in a warm house to induce early sprouting, but it is not well to get growth too much advanced. Globe Artichokes should be given protection in gardens where they die off badly during the winter months. It will not be safe to leave such plants as Cardoons any longer in their growing quarters. They will keep some weeks in a cool store if the roots are left intact. All kinds of roots will now force more readily and regular supplies should be maintained. Avoid hard forcing, as this affects the flavour and causes a weak growth.

FORCING CARROTS.—Carrot seeds require more time to germinate than many others, so that if young Carrots are needed early in the spring it will be well to make up the beds for the same. Carrots do not like hard forcing, and if grown in heated frames they are not always a success. The best roots I ever saw were grown on a mild hotbed. The hot-water pipes with a genial bottom heat will not need much using in mild weather; indeed, I prefer to cover the glass at night in preference to much warmth or dry heat. Leaves are splendid for mixing with fresh manure for forcing vegetables, as the warmth is more regular and lasts much longer. The whole should be made firm to prevent shrinkage, or, what is better, the materials placed in bulk and allowed to heat freely before forming the beds. I fear since the general use of hot-water pipes, growers of the present day have less regard for leaves and manures, but these are much better if slow forcing is carried out, and slow forcing gives superior quality. As regards size of beds and making, much depends upon the quantity needed. There should be sufficient depth of material to ensure enough warmth for some weeks. With the frames on a body of heating materials it is an easy matter to give a good lining round, covering this with long litter or soil to retain the heat. A fine or light soil should be employed on the surface of the beds, this being placed in position

some time in advance of sowing, so as to get thoroughly warmed through. For frame work I prefer the small stump-rooted kinds, such as the Early Nantes, Parisian Forcing, Early Gem, or any of the Short Horn type. It is a mistake to sow thickly, as the thinning at times is overlooked and the crop suffers. I have obtained excellent crops, but a longer time about, by sowing on beds of warm leaves and covering at night. Grown thus, the beds after the crop is cleared are useful for many purposes.

RADISHES FORCED.—Having large quantities of leaves at this season, I turn them to good account. Much the same remarks apply as to Carrots, but the Radish with warmth germinates so quickly, that two or three crops may be had from the same frame or pit. The Turnip varieties, such as White or Red Forcing, the Olive or Oval Crimson Forcing, and Earliest of All, are specially good. Here less soil will suffice, 4 inches to 6 inches on the heating material being sufficient. Sown now in warmth there should be good roots in six weeks. I find the old Radish beds in frames most valuable for pricking out tender seedlings, such as early Lettuce, Cabbage, Cauliflowers, and such like after raising in heat. The little warmth left in the bed is just sufficient to start the plants. Many sow Radishes with Carrots. I do not advise it, as the Radish often ruins the Carrot crop. If sown in pits, with hot-water pipes to heat the beds, dry heat, or too much, must be guarded against.

FORCING TURNIPS.—For many years I have grown this vegetable under glass, and the demand is quite as great as for Carrots; indeed, more so, as it is a difficult matter to have good Turnips after March; whereas Carrots are fairly good and plentiful. The same mode of culture is applicable as given for Carrots, but once in active growth, more ventilation is needed. It is well to sow close to the glass. Sown early in January, nice-sized roots may be had in three months and at a time there are few sound roots. There are some excellent early varieties for frame culture, the Early Milan being one of the best. There are two kinds of this, the White and Purple, both excellent, as they bulb quickly and grow well under glass if given ample ventilation. A firm bed is necessary, as if at all loose on the surface, the plants have a tendency to run. Thin early and ventilate freely in mild weather, giving ample moisture.

FORCING RHUBARB.—Now is a good time to cover up roots in their permanent quarters, and I am in favour of this mode of culture as the produce is of better flavour than that from lifted roots forced in a warm house. Any material at hand will suffice for covering the roots, but, of course, Rhubarb pots are best if expense is not studied. Needing large quantities, I resort to various means, such as empty casks, which I like better than pots, as they are more roomy. Being much deeper a finer growth is secured, and if the heating material at the start is at all warm, the casks allow the steam to escape more readily. Old cement casks answer well, and in cases where hard forcing is not intended, only a light covering is given to hasten growth. Strong stakes placed round the roots and brought to a point will suffice. In covering, it is advisable to use materials that retain warmth and in sufficient quantities. Roots not intended for forcing early are none the worse for a covering of light litter. These will give earlier growths than those fully exposed. Roots lifted and placed indoors should not suffer from want of moisture, and, if possible, should be damped over frequently with tepid water if the house is at all dry.

MUSHROOMS.—I am a strong advocate of what is termed the cool-house treatment. The splendid crops obtained at Gunnersbury House by Mr. Hudson in unheated underground cellars would convince anyone that my advice is correct. So far this autumn I have not used fire-heat, and the supply has been better both in quantity and quality also. A night temperature of 55° with 5° to 10° higher by day in mild weather will be sufficient. Materials will have needed to be prepared under cover owing to heavy rains, and,

if possible, new beds should be made every three weeks or monthly. Far better make small beds frequently than allow the fermenting materials to get overheated. To prevent this I use it in a more strawy condition and also add a little loam, which retains warmth and assists in making the beds more solid. Old beds will be benefited by giving warm liquid manure from stables, adding little salt to the liquid. S. M.

ORCHIDS.

ANGRÆCUM SESQUIPEDALE.

Most growers are acquainted with and admire this singularly beautiful plant, with its large white waxy-looking blossoms and their attendant spurs from which the plant takes its name. The growth of this species is quite distinct from that of any other known kind, and when in good condition, either in or out of flower, it is an ornament to any collection. The chief requisites are a strong heat and abundant light, and though growth is perhaps more free in a house with ample atmospheric moisture, it is none the less true that the plant thrives in a drier house than many similar species, and may be placed in dry corners unsuitable to other plants without suffering in any way, provided due attention is given to other details. When newly imported the plants are often sorry objects indeed and as shapeless as they are rough and dirty. But care in potting and staking, pulling the growths into shape and tying make a great difference, while as soon as new growth shows itself the plants have quite a different appearance. Like many other single-stemmed Orchids, it is greatly dependent upon the roots. These, then, must be carefully preserved, and the most likely way to keep them alive over a long series of years is to treat them as they are doubtless treated in their native habitat. Here they cannot always be wet alike, but a great many must be dry for the greater part of the day. For this reason I like to see the roots pushing about in all directions from the central stem, not all confined to the compost, for if some are on the outside of the pot, others, perhaps, clinging to the stage and fully exposed to light and air, they will not all be wet like those in the compost after this is watered. If it were possible, I believe the roots of all Orchids would be better for a few hours' drying, say once or twice a week, but this is not easy to bring about—in the case of large specimens at any rate. Fine plants of this *Angræcum* may be reared in baskets of quite limited size, provided the roots are allowed to ramble as described, and this is a good way to grow it. The plants may also be grown in pots on the stage. In either case plenty of rough pottery ballast and charcoal should be mixed with clean newly-gathered Sphagnum Moss for compost, and the drainage will need special care. It takes disturbance so badly, that it ought not to be repotted oftener than is absolutely necessary. The surface compost may be renewed from time to time and fresh substituted, and if this is done, plants of fair size may go on for four or five years at least with no further trouble. Despite what is said above, *Angræcum sesquipedale* is a very thirsty subject when growing freely, and not only does it like root moisture in abundance, but the tops also may be freely syringed with advantage. The shape of the leaf at the axil is rather singular, and seems specially intended to throw off superfluous moisture, so there is no fear of damping, unless, of course, the treatment was continued in wet or dull weather. The plants are singu-

larly free from insects as a rule, and occasional sponging with tepid water in which soft soap has been dissolved will prevent an attack of scale, the only one that need be much feared.

H. R.

Sophranitis cernua.—The habit of the species is very dwarf, but the flowers are very distinct and pretty, lasting a long time in good condition. About three are usually produced to each bulb, and these are bright red with a yellow base to the lip. Under cultivation it does well in small pans or on blocks, and it should be kept well up to the light in the cool house. It is a native of Rio de Janeiro, and was introduced in 1826.

Odontoglossum Rossi rubescens.—This is a bright and pretty form of a remarkably useful Orchid, and one that should be looked after. The sepals and petals are tinted with a deep rosy hue and spotted with reddish brown, a pretty combination. The species is one of the commonest, but may be liberally represented in any collection with advantage, for not only are the flowers extremely pretty, but they will last longer perhaps than those of any other species, unless it is *O. maculatum*. Plant in small pots or pans and suspend them from the roof if possible, watering the roots freely all the year round.

Saccolabium bigibbum.—In this species the flower-spikes are only a few inches high, and rather too dense to be as pretty as some others in the genus, but it blooms during a dull season and is very distinct. The habit is dwarf, the spikes push horizontally and are crowded with pale yellow blossoms, the only other colour being some rosy streaks upon the lower part of the lip. It likes a fairly high and very moist temperature, and need only be shaded during the middle of the hottest days. It should be kept well up in the house, and planted in small wooden baskets in clean Sphagnum Moss and charcoal. It is a native of Burmah, and was introduced by Messrs. Veitch and Sons in 1868.

Cypripedium Charlesworthi.—This species has not become so popular as was anticipated, and is another instance of the folly of sending home such vast quantities of any one kind. Many plants are grown, of course, but in all probability the day for any new *Cypripedium* to make a great stir is gone by, as there are so many fine species and hybrids now in the genus. All the same, *C. Charlesworthi* will always be worth growing for the sake of its beautiful flowers for cutting, and this will at least be some consolation for nurserymen who have it in stock by hundreds. The brightly tinted dorsal sepal gives the flower a very fine appearance, and as time goes on it should become a fine useful, warm greenhouse plant, such as *C. insigne*, *C. barbatum*, and others have long been considered.

Masdevallia polysticta.—This is one of the finest *Masdevallias* and a plant worthy of all care. From a tuft of leaves about 6 inches high the spikes are thrown well above the foliage, and these contain half a dozen or so of fine white flowers spotted with purple. It is a robust plant as *Masdevallias* go, and ought not to give even an amateur who is a little experienced among cool Orchids much trouble. Like all in the genus it will not thrive in a dry or overheated house, but when kept cool and moist in summer, and in winter brought well up to the light, it will be satisfactory. Medium-sized pots and a free, open compost with plenty of root moisture all the year round suit it admirably. It is a native of the Peruvian Andes, and is one of M. B. Roez's discoveries, he having sent it home about 1874.

Odontoglossum cariniferum.—The flowers of this species are produced very freely, and they last well in good condition. They are produced on flexuous, branching stems, and are individually about 2½ inches across. The sepals and petals are olive-brown with yellow margins, the lip white, stained with purple and crimson. It is one of the easiest to grow, and thrives as well in a moderately cool fernery or some such structure as in the Orchid house proper. Fairly strong in

growth and roots, it may be given more pot room than is usually afforded the crispum and similar kinds, a rough and very open description of compost and thorough drainage. It usually rests a short time only, and during this season water must be carefully applied, but in its growing period it is one of the most thirsty subjects. Shade in summer, light in winter, and ample atmospheric moisture are the conditions it likes. It is a widely-distributed plant in Central America, where it was first discovered by M. Warszewicz in the first half of the present century, but if introduced to this country it was rare for a long time after this.

NOTES ON ORCHIDS.

IN the cool house, *Odontoglossums* and other Orchids reported as advised recently have made good progress, and it is interesting to note the effect the new compost has upon the forming bulbs. Not long since, when looking over a fine collection of *O. crispum* and similar kinds, I noticed that many of the plants of medium size only were grown in rather larger pots than usual, and remarking on it to the grower of the plants, a very successful one by the way, was informed that it was his usual practice when the plants had become well established and strong in 3-inch pots to give no intermediate shift between this and a 5-inch pot. Certainly the roots looked as though they enjoyed the freedom given, and a little care in watering afterwards is all that is necessary to ensure their well-doing. Anyone with a few years' experience of this class of Orchid knows well the difficulty of getting small or weak bits to move freely and fill out the small pots in which they are necessarily placed. But once get them beyond this stage and there is every probability they will soon make fine specimens. The rather large shift then in such cases is admissible, as it gives the plants at least a couple of years' grace without further disturbance, and the additional compost strengthens the forming pseudo-bulbs materially. Most Orchid-growing readers will have noticed what an amount of water these newly-potted *Odontoglossums* require to keep the compost moist when the new roots are entering it freely, and unless the weather is distinctly unfavourable, the plants may even yet be watered freely. But when the external air is moist and cold—as it often is at this time of year—both root and atmospheric moisture must be supplied with discretion. Those plants of the *O. grande* section require least now, especially those that have finished flowering, while the plants of other kinds that have not been repotted, and have, therefore, a somewhat closer compost, will not require so much as those that have been so treated. *Disa grandiflora* and the hybrid *D. Veitchi* are very thirsty subjects when growing freely, and may be kept moist at the roots as well as freely sprinkled overhead as long as the weather keeps open. Plants of *Cattleya citrina*, too, that have been resting in the cool house will by now be well on the move, and may be kept moist. They will be all the better for a slightly higher temperature, but not so high or so dry as that of the usual *Cattleya* house is at this season. If the night temperature of the *Odontoglossum* house is kept at 50° this *Cattleya* is better here than anywhere, but this figure is the lowest that should be reached, or the plants may be checked, and the flowers as soon as they appear will turn yellow and drop off. This will also result from too high and too dry conditions.

Though the *Cattleya* house is still gay with the flowers of the old *C. labiata* and one or two of the earlier *C. Percivaliana* and *C. Trianae*, there is not much to be done. A few plants of the former have just been potted, as root activity seemed imminent, and sundry other small attentions to compost have been given. Still, the slackest time of the year in this section is here, and may be taken advantage of by giving a thorough cleansing, not only of the plants themselves, but of the house and stages. About the bases of the older leaves and flower-spikes and under the

external sheaths of the pseudo-bulbs are favourite haunts of the soft white scale, and a clearance of this is an advantage just now. Stakes and ties may also be renewed, and where the growth of such as *C. Lawrenceana* and others seems to be straggling, let the young bulbs be tied into place a little. Large plants coming into bloom may also be tied into form a little, as after the flowers are open and have lost the power of twisting to face the light they are more difficult to handle. Not much damping is necessary in this house, and the pipes must especially be avoided, as the steamy vapour which rises therefrom is injurious both to the plants and flowers. Maintain a buoyant atmosphere by free ventilation whenever possible; always leave a little air on at night, excepting during the coldest weather, but avoid dry, chilling draughts.

In the warmer division *Dendrobium Phalaenopsis* is the principal attraction, and very lovely it is with its arching racemes of flowers varying in colour from white to the deepest crimson-purple on the better varieties. Rest the plants, if possible, after the flowers are past, as there is nothing gained by rushing them into growth at this dull season. Later flowering specimens will be even more difficult to keep dormant, but they are better so if possible. Most of the better-known deciduous and evergreen kinds are now dormant as far as growth is concerned, but the flowering nodes on the former are beginning to push. Except where required very early, they are better in a cool, light and airy house a little longer. *Calanthes* must be kept quite dry at the root when the flowers are fully expanded, and all the distichous-leaved section will need the utmost care in watering. Avoid excitement in every way, in fact, and where a few plants are evidently bent on growing, take them, if possible, to another house, such as a plant stove, where they can in a gentle way be kept moving all the winter and be ready to return to their proper quarters when the season is sufficiently advanced.

Oncidium hæmatochilum.—This pretty species is far from common, and it is a pity it is not more plentiful. It belongs to the bulbous section of the genus and has fine dark green leaves, spotted with dark brown on the upper side, from the bases of which spring the tall flower-spikes. About a couple of dozen flowers occur on each spike when the plants are strong, their sepals and petals being a greenish shining yellow, overlaid with spots of reddish brown in some cases, in others a bright, yet deep cinnamon. The lip, too, varies in colour from rose to deep crimson. The plant is a native of New Grenada, presumably at a low elevation, as under cultivation it does best with more heat than most plants from that neighbourhood. In a cool house the leaves will be subject to a soft spotting, which is very unsightly and distressing to the plants. The best compost consists of three parts of Sphagnum Moss to one of peat fibre, with an ample addition of large crocks and charcoal, and the plants should not be potted oftener than is absolutely necessary, as they greatly dislike being pulled about at the roots. Water freely while growth is active, but during winter give very little, the large, thick leaves containing almost as much nutriment as a pseudo-bulb, and this keeps the plant going. It is not right to go to extremes, of course, but it needs far less water than most while at rest.

Oncidium reflexum.—This species is but little grown, yet it is a useful and pretty kind that may with advantage be included in any collection. It is quite distinct from any of the other long-branching, spiked *Oncidiums*, having egg-shaped bulbs and fine deep green foliage. From these spring the tall spotted scapes, rising to a height of about a yard. The blossoms are individually 1½ inches across, pale yellow, with reddish brown markings on the sepals and petals, the lip much brighter and also tinted with red about the basal part. The plant is a native of Mexico, and thrives well at the cool end of the

Cattleya house, in such a position that the air plays freely about the foliage. If grown in much heat and moisture without plenty of air, it keeps on growing and seldom flowers. The pseudo-bulbs finish up early in summer, and a short time only elapses before the spikes appear, but they are a long time in coming to perfection. During this time the plants must not be allowed to get very dry, and as soon as growth again starts they require an abundant supply of water. They may be grown in medium-sized pots, these being well drained and filled with a compost consisting of good rough fibrous peat and Sphagnum in equal parts, allowing plenty of rough charcoal and potsherds to keep this open. Like all in this section, it is apt to be attacked by green-fly when the spikes are pushing up, and it will be necessary to pass a damp sponge over the spikes about twice a week until the insects are all destroyed.

CATTLEYA DOLOSA.

The blossoms of this pretty species are produced during late autumn and winter, and it is a useful and showy kind that might with advantage be much more freely grown. In habit it is small, the pseudo-bulbs seldom more than a few inches high, but the flowers are of good size and very pleasing in their soft rosy mauve shade. The culture of *C. dolosa* is not perhaps quite so easy as that of the larger growing labiate forms, but with care it will thrive in any ordinary Cattleya house. In former days it was almost universally grown on blocks, often of teak, without a particle of Moss or anything else for the roots to enter. The growth naturally was very small and weak, so the species obtained a name for being even more difficult to grow than it really is. These blocks of smooth wood are all very well if the atmosphere of the house is always kept moist and one could be sure that the roots would not suffer from want of moisture, but that is just where they fall off. Blocks of Fern-stem are much better for *C. dolosa*, but if these cannot be obtained, baskets and pans may be used. In these the drainage may come well up, within an inch of the rim for medium-sized and rather more for large plants, the compost being the usual one of peat and Sphagnum mixed with plenty of charcoal and crocks. In this the roots grow freely enough, but require care in watering, especially when just forming and again after the growth is made up. In the middle of summer, when the plants are growing freely and evaporation is rapid, they take a fair supply, but it is easy to be too liberal with the moisture. Growth commences, as a rule, in early spring, and this is as good a time as any for re-basking where this is necessary. In all cases the plants should be disturbed as little as possible, a check being easily given by rough handling, from which the plants will not readily recover. As soon as the plants are beginning to root freely again, the moisture must be increased, for the top growth will be active and continued right on until the flowers open. It is unwise to leave the flowers on the plants until they fade if the latter are at all weak or only partly established. After flowering, keep the roots well on the dry side, but avoid shrivelling, and take great care that no insects of any kind are allowed to harbour about the rhizomes or pseudo-bulbs.

C. dolosa is sometimes classed as a variety of *C. walkeriana*, but although the flowers are somewhat alike, the fact of its blooming on the pseudo-bulbs and not from a separate growth seems to point to a different species. It is a native of Minas Geraes, and was introduced in 1872.

Dendrobium nobile cœrulescens.—Where flowers are wanted very early in the season this dwarf form is one of the best varieties to grow. Whether this arises from the fact of the stems being shorter and therefore finishing earlier, or whether it flowers naturally earlier, I cannot say, but certainly it is more easy to bring into bloom in the middle of winter than the long-stemmed varieties, and not so prone to growing at the

nodes instead of flowering. It is well to keep the same plants every year for this purpose, as they then get into the habit of finishing the stems early and have plenty of time to ripen thoroughly before going into heat. If the stems are not ripe, it is better to keep them back a little, or the flowers will probably be of poor colour or abortive and badly shaped. *D. n. cœrulescens* bears very deeply-tinted blossoms, neither so large nor quite so wide in the segments as those of other kinds. It was one of the plants sent home to Chatsworth by Mr. Gibson when collecting for the Duke of Devonshire about 1837.—H.

A SUCCESSFUL HYBRIDISER.

LUTHER BURBANK was born on March 7, 1849, at Lancaster, Mass., and was first employed in the Ames plough works at Worcester, Mass., of which his uncle was superintendent for half a century. But service in a noisy factory was not compatible with his love of Nature, and in 1870 he purchased a small tract of land at Lunenburg, Mass. Here began Mr. Burbank's career as a horticulturist, and in 1873 he raised the Burbank Potato. Finding



Luther Burbank.

the climate of New England unsuited to the requirements of experimental work, he removed in 1875 to Santa Rosa, Cal., where he now has extensive grounds and a large collection of Lilies and many other plants, shrubs and trees.

Mr. Burbank has many times duplicated his first success with the Potato. He grew more than a million seedlings to establish a new race of Gladiolus, and the Canna, Iris, Calla and the Rose have also responded to the care of this adept hybridiser. Raspberries, Blackberries, Walnuts, Quinces, Prunes and many other fruits have been developed to man's greater good at his garden. Besides his greenhouses and ten acres of home grounds on Petaluma Avenue, Santa Rosa, he has a farm a few miles distant, at Sebastopol, where eighteen acres are given over to seedlings and thirty acres devoted to farm experiments. So fully is Mr. Burbank's time occupied by his studies, tests and correspondence, that he refuses to admit the public to his gardens except in the month of June, which is reception period for intending purchasers. Then those who anticipate a view of uniform rows of beautiful plants or healthy shrubs and vegetables are sadly dis-

appointed, for they find, instead, chaos, a veritable horticultural workshop.

A story which Mr. Burbank delights in telling is that of a member of one of the largest seed firms in the country who had travelled over 3000 miles to see the workings of this hive where man and Nature join in industry. On the way from the station the visitor overtook an old gentleman who had worked many years for Mr. Burbank, and inquired of him if he knew Burbank. "Of course I do," was the reply. "He used to have a big nursery, but sold it out, and now he raises acres and acres of stuff, and every summer has 'em all dug up and burned. I wouldn't give a hundred and fifty dollars for the whole kerboodle." The gentleman from the Atlantic stored away this gratuitous advice, but before the day had passed he selected from Mr. Burbank's stock a half-dozen plants for which he paid 6000 dollars. *American Florist*.

BOOKS.

INJURIOUS INSECTS.*

A VERY useful "Handbook of Insects Injurious to Orchard and Bush Fruits" has quite recently been published by Miss Ormerod. It really consists of the articles on these insects from her well-known "Manual of Injurious Insects," written up-to-date. In addition to the insects attacking orchard and bush fruits, those injuring Strawberries are also dealt with, as well as two kinds of eelworms and three mites; in all some sixty-three pests are described, and in the majority of cases figured. This book will no doubt prove a very useful one to all fruit growers, as it is of very handy size, containing 286 pages. It might have been reduced by many pages and the information required by practical men more easily obtained from it if the notes by correspondents were not given verbatim, and the whole more tersely worded and condensed. The book is dedicated to the memory of the authoress's sister, who very materially assisted her in her entomological work. In speaking of the American blight, Miss Ormerod says, "The pupæ (that is, the aphides before grown to maturity) are," &c. This is misleading, as the larvæ are also the aphides before grown to maturity. On page 21 there is a mistake that should be corrected in another edition. Wishing to allude to the late Professor Westwood (life president of the Entomological Society of London), the authoress mentions Professor Westwood, life president of the English Entomological Society, whatever that society may be. Two insects are described and figured which can hardly be considered as pests, the lappet moth (*Gastropacha quercifolia*) and the large tortoiseshell butterfly (*Vanessa polychloros*). As they so seldom are the cause of any appreciable injury to fruit trees, it seems hardly worth while to have mentioned them, and, indeed, the authoress almost admits as much. The large tortoiseshell butterfly is one of our handsomest English insects, and it would indeed be a pity if it were destroyed unnecessarily. In the article on the garden chafer (*Phyllopertha horticola*), the great resemblance of its grubs to those of the common cockchafer (*Melolontha vulgaris*) before the latter attain their full size is commented on, and in order to enable persons to discern the difference between them, a Latin description of both grubs has been translated by an Oxford M.A. The exact meaning of the Latin I have no doubt has been most correctly given, but the language is so technical, that no one but an entomological expert could understand it. It is a pity that a more intelligible description to the "man in the street," or rather in the orchard, was not given. In the notes on the Currant mite (*Phytoptus ribis*) it is mentioned that it is very

* "Handbook of Insects Injurious to Orchard and Bush Fruits, with Means of Prevention and Remedy." By Miss Ormerod. Simpkin, Marshall and Co.

important to observe the number of the legs in order to prevent confusion in identification with other kinds of mites which may very likely be found on Currant bushes. This is very absurd, as the Currant mite belongs to the Phytoseptidae, a family of mites the members of which cannot be mistaken for those of another family on account of their very long, narrow bodies, which are some six times longer than they are wide, while most of the other mites are more or less rounded or oval. At any rate, the Currant gall mite could not be mistaken for any other mite of another family, so that fruit growers if they find their Currant bushes attacked by a mite, need not go to the trouble of putting the pest under a powerful microscope, as it would be necessary to do if they had to count its legs, for a really strong pocket lens will reveal its identity. The work concludes with a useful alphabetical list of fruit crops and the insects that infest them.

G. S. S.

FLOWER GARDEN.

ZAUSCHNERIA CALIFORNICA.

ON reading some notes in THE GARDEN on this, it does not appear to be generally known that there are several forms or varieties. I have grown at least three totally distinct from each other. First I will mention a variety I have grown and seen in gardens under the name of *splendens*, a straggling, weedy-growing form with coarse downy foliage, which in wet weather is liable to disease and quick decay. The flowers, although brilliant in colour, are so sparsely produced as to render it of little value as a garden plant, and altogether it is a worthless variety in comparison to two other varieties I will mention, one of which is so distinct as to suggest its being a true species. The one to which I refer is a very early-blooming form, invariably coming into bloom here (Cambridge) by the third week in July and continuing a beautiful mass of bloom until destroyed by late autumn frosts. The foliage and flowers of this variety are much deeper in colour than in other forms; it is of fine robust, yet compact habit of growth, and one wonders why such a fine, hardy and easily grown plant has never become popular for massing on a large scale in public and private gardens. In effect it is far superior to such things as *Cupheas* and other half-hardy plants generally used for such purposes. Given a sunny position and rather poor, well-drained soil, I believe this variety would succeed in any part of the United Kingdom. A few years ago a small number of plants, placed by mistake in a half-shady position, was allowed to remain. These quickly grew into a large mass and have never failed to be a sheet of blossom for eight or ten weeks each year, although coming into bloom a fortnight later than those planted in full sun. I think there is confusion in names, and this variety may be the true *splendens*, or it may be a Mexican form which I have noticed in continental lists under the name of *mexicana*, as the description of the latter corresponds very closely with that of the variety I have described. Whatever its proper name, source, or origin, it is undoubtedly a first-class and reliable plant, and if I were confined to growing a couple of dozen of the best and most reliable perennials this certainly would be included.

The third and last variety to be noticed is a much smaller plant in all its parts than the two already referred to, the foliage much more rounded, the habit of the plant more dense and compact, and the flowers much smaller, but of the most intense vermilion colour imaginable. I believe there are good and indifferent forms

of this variety—a thing easily accounted for where any plant is quickly raised from seed. This particular variety appears to require much greater heat to see it in its best condition than the other good variety referred to, and, treated as a hardy border plant, without any coddling, I have never known it bloom before the second week in August—nearly a month later than the other variety. The best position for this variety is probably the driest and sunniest part of a rockery, but in hot, dry seasons here it forms beautiful masses of bloom grown on a sunny border. A large mass of a good form of this seen in its best condition is a sight not easily forgotten. It is the most intensely brilliant-coloured flower I know. I have never seen it in finer condition than on a sunny border in a naturally poor, dry, warm soil, made more so by some large drains running directly underneath the plants. Wherever *Plumbago Larpentæ* thrives and blooms freely this variety of *Zauschneria* would be a success.—J. BURRELL.

Possibly my experience may give a hint as to the requirements of this plant. I cultivated it in Bucks from 1848 to 1858 in a south border of stiff clay, baked in summer into cracks 2 inches wide, and drained of its nourishment by shrubs and creepers against the house. Here it was very dwarf and flowered in profusion every year. In Kent from 1875 to 1885 it flowered equally well in similar (but poorer) soil. Here in Warwickshire on rich red sandy soil it grows freely, but nothing will induce it to flower. I am now trying the gravel walk.—JUNIA.

My garden is in the south-east corner of England, has a great deal of sunshine, and the soil is of a light character. The warmer and brighter climate is, I believe, most congenial to this, but even with me it is only in dry seasons that it flowers profusely. It grows like a weed on my rockery, and I have continually to take out quantities of it. In a dry season like the past it has done uncommonly well, and the plant has been covered with its bright Fuchsia-like blossoms. I therefore conclude it is not the method of cultivation that is at fault, but the weather.—DELTA.

I notice that the beautiful late summer and autumn-flowering plant *Zauschneria californica* is accredited with shyness of blooming in the north and elsewhere. Having tried this plant in various places and in different soils, I find a great deal depends on the variety one possesses. The better and earlier flowering sort, with leaves more lanceolate and tinged with red, has been found both in heavy soil in Sussex and Hertfordshire and in the light soil of a hot, sandy garden to be very free flowering, always arresting attention from August onwards. Of the later flowering kind, sold as *Z. c. splendens*, the growth is more vigorous, leaves very hirsute and of a pale green. It is altogether a more compact grower. The colour of the flowers is the same brilliant vermilion, but they are shorter in the tube than in the earlier variety. This was very beautiful this season in October here.—MAURICE PRICHARD, *Christchurch*.

Had Mr. Arnott been able to see this hardy plant as I saw it at St. James's, West Malvern, in September last, he would hardly have penned the pronounced deprecatory note concerning it which appears at p. 467. At St. James's it grows in great clumps on the sharp slopes of that remarkable and beautiful garden almost luxuriantly, and was when I saw it a perfect mass of bloom. The soil is of a semi-volcanic character, intensely hard stone, pulverised by weather and years, the position the hillside looking west. I well remember the introduction of this plant in 1850 into the garden where I then served, and that it seemed to do well as an ordinary rock plant. The chief objection to its use was that its roots were too rambling. So far as my experience of it has gone it has always done better on elevated positions

than on the flat. That it is when in full bloom, as I saw it so recently at Malvern, a very beautiful thing there can be no doubt. Possibly were Mr. Arnott to select a sunny site and an elevated one, and intermix with the soil some well crushed limestone, he might obtain better results. Still, Dumfries may be too far north to enable it to secure that liberal sunshine and warmth it evidently needs. *Plumbago Larpentæ*, introduced at the same time, has perhaps never had its requirements fully met in this country. We too often have plants introduced with too little knowledge of their native surroundings.—A. D.

Seeing a letter in THE GARDEN of Dec 10 which speaks in a desponding way of two plants which are favourites of mine—*Zauschneria californica* and *Plumbago Larpentæ*—it may be of interest to your readers to give them my experience. For years I grew the *Zauschneria californica* on the tops of walls and rock gardens in the sun and in the shade, in damp places and in dry, and it never died. I moved it in the autumn, and in the spring early in the year it looked flourishing enough, but in the autumn the same disappointment year after year—it never flowered. At last I happened to visit Mr. Thompson's most interesting little garden at Ipswich, and I found it flourishing and in full bloom, and exactly like its picture published in the old book of the fifties. He pronounced the magic word for its cultivation—a dry, sunny situation and very good feeding. I came home, planted mine in the corner of a Vine border slightly raised, dry, and sunny in the richest soil I could make, and the result was quite satisfactory, and when the buds formed it was copiously watered once or twice, as the season was very dry. The plant was lovely, and the flowers look well in water. I saw it in bloom last summer in a friend's garden, and I knew he too had re-made his borders. *Plumbago Larpentæ* flowers very well here in poor soil, and its leaves as they turn red are as beautiful as the gentian-blue flowers. All I ever do to the plants here is to cut pieces out with a spade in the autumn, fill in with fresh soil, and water copiously as the plant is coming into flower in September. I can honestly say no two autumn-flowering, low-growing plants I know are better worth growing than these.—M. T. E., *Woodlands, Cobham*.

This plant, which Mr. Arnott in his note (p. 467) alludes to as being a decided disappointment in the majority of gardens, is certainly a capricious subject, but may often be found flowering freely—at least in the south of England—under circumstances apparently the reverse of favourable. Probably the most suitable soil is a sandy loam, and the most desirable position a fairly elevated one in the rock garden; but I have seen it flowering profusely in a flat bed of heavy, retentive loam inclining to clay. Where it blooms freely it is one of the most effective late summer and autumnal herbaceous plants, the vivid vermilion of its blossoms at once arresting attention. It grows like a weed in most gardens in the south-west and generally carries some of its flowers into November. It is very probable, as Mr. Arnott suggests, that the cooler climate of the more northern portions of our islands acts as a deterrent to its flowering, but I was sorry to notice in the concluding paragraph a warning to intending growers not to attempt its culture, for the planting of a single specimen would entail but little trouble or loss of space if it remained flowerless; whereas if the experiment happened to prove successful, the conductor of the trial would be amply repaid for his venture. In the same note *Plumbago Larpentæ* is spoken disparagingly of. Here, in South Devon, it grows rampantly, rooting through rockwork and gravel paths and producing quantities of its soft blue flowers. This plant, again, though usually considered partial to a porous compost, grows vigorously and flowers as abundantly in very heavy soil close to water as on high and well-drained positions in the rock garden. Doubtless the warmer temperature of the south-west is responsible for the success attending the culture of this *Plumbago*

and the Californian Fuchsia under the dissimilar conditions mentioned.—S. W. F., *South Devon*.

WATER LILIES AT OAKWOOD, WISLEY.

THE photograph of the Marliac Water Lilies growing in a pond at Oakwood, Wisley, was taken by my son, Mr. Scott Wilson. Visitors to the garden have greatly admired the plants; they are so beautiful and give so little trouble, that I think they ought to be very generally grown. They have an additional merit, that when a pond is made muddy by carp or other fish, they cover the surface. The pond is in full sun in a warm situation, and this suits them, as is shown by the size of the leaves. The older forms are no longer expensive. N. Marliacea Chromatella, the yellow form, contrasts well with the pink-flowered kinds.

GEORGE F. WILSON.

Tropæolum Lobbianum.—"J. C. B." in his note (p. 467) draws well-merited attention to the decorative qualities of this brilliant creeper. Owing to the mildness of last winter many old plants survived, and have this year clambered 20 feet or more up the walls of houses and cliffs. One cottage was scarlet to its chimney with the countless vivid blossoms, and on a perpendicular rock-face, sheltered from all winds but the south-west, even at this date (December 15) a few blossoms may still be seen shining aloft among the huge seed-vessels of *Physianthus albens* and the smoother pods and polished foliage of *Stauntonia latifolia*. A charming effect is obtained by the association of the bright blossoms of the *Tropæolum* with the white flower-clusters of *Solanum jasminoides*, the two colours forming an attractive contrast.—W. S. F., *South Devon*.

Anomatheca cruenta.—This pretty little South African bulbous plant, which has been several times referred to in THE GARDEN of late, is a great favourite of mine, and, apart from the fact that it forms a very pleasing feature on a warm sandy border, it is also very useful for the greenhouse. The bulbs of this *Anomatheca* are something like those of a *Freesia*, but smaller, and in order to obtain neat little specimens, from eight to ten bulbs should be put into a pot 5 inches in diameter, while for larger masses pans are preferable, as the *Anomatheca* is a shallow-rooting subject, hence no great depth of soil is required. It possesses one prominent feature that renders it remarkable among bulbous plants, and that is the seeds which ripen one year will produce flowering plants the next. With me self-sown seedlings crop up here and there, and being allowed to remain undisturbed, their little bright flowers are towards the end of the summer to be met with under various conditions. This *Anomatheca* produces bright green sword-shaped leaves about 6 inches long, while the flower-scape will reach a height of nearly a foot. The blossoms, which are borne in considerable numbers, are each nearly an inch across and of a bright carmine-red colour, while the lower segments are blotched with velvety crimson.—H. P.

Heather protection.—Very noticeable is the great quantity of cut Heather employed for protecting beds of bulbs or other choice things at Long Ditton, and its free use in this way merits attention by gardeners because it is cheap, enduring, and does not beat down and become saturated as litter or Fern is apt to do. Whilst lying light and enabling air to penetrate to the soil, yet does the Heather largely exclude severe frost and ward off the beating rains which so

harden and close the surface of recently-worked soil. Gardeners may find similar material of great service in gardens for many purposes, and secured against strong winds would not be offensive.—A. D.

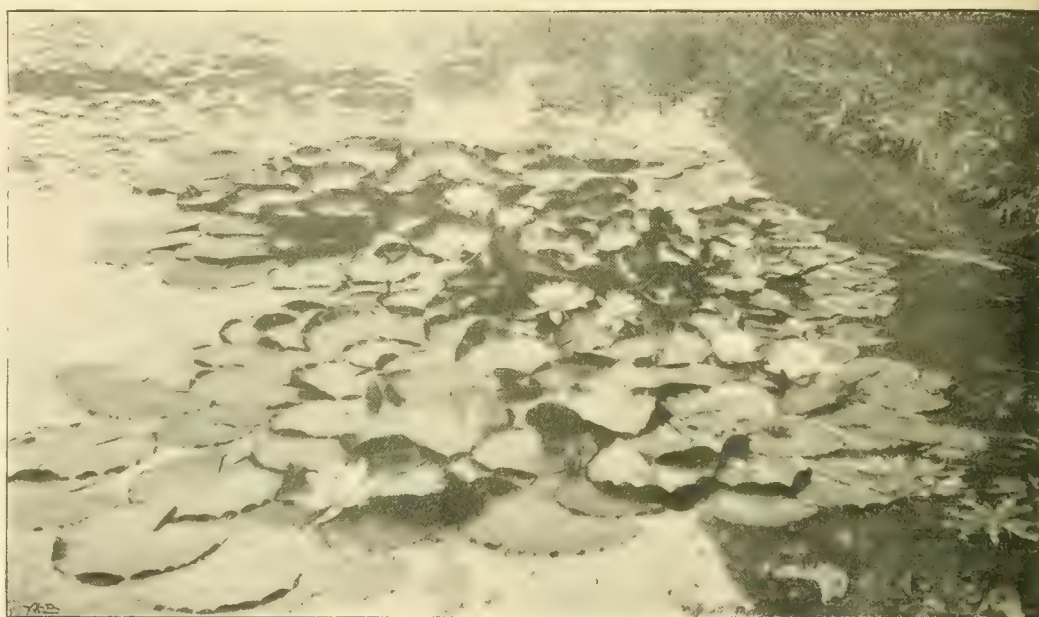
CARNATION NOTES.

SOME varieties are longer than usual in making roots this season. It may be the soil I used when layering was a bit close and heavy for the more tender kinds. These backward ones, however, have been taken from the old stocks about a fortnight and potted singly into a porous soil composed of loam, leaf-mould and a good proportion of sand. They are in a light, airy greenhouse, where a little fire-heat is turned on at night. Warmth has not been necessary during the day, as the weather has been unusually mild for the time of the year. I have also lightly sprinkled the plants with water in the mornings of sunny days. It is surprising how quickly they have responded to this treatment. The leaves have pricked up

house or frame through ventilating in the opposite direction to such winds. It is well to use some slight protection if the weather becomes unduly cold and frosty. Close, damp conditions are favourable to spot in the leaf, and this readily spreads. It is really a disease, but one that is checked by dry, sweet surroundings.

The principal cultural item of the December and January months is to guard against this and other pests likely to seriously check, if not altogether ruin, our chances of a satisfactory flowering time. Few cultivators, I should imagine, are more particular in the matter of timely attention to diseases of Carnations than is Mr. F. A. Wellesley, Woking. His thousands of young plants are at the present time the picture of health and cleanliness. A spotted leaf is quickly removed. The more troublesome red rust is as regularly looked for, and if the slightest sign is noted, off comes the affected part, which is burned. By this means and by isolation in serious cases his collection is unusually clean.

The rust is really often on Carnations whilst



A group of Mons. Marliac's Water Lilies in Mr. Wilson's garden at Wisley. From a photograph by Mr. Scott Wilson.

and new roots have in many instances reached the sides of the pots.

The stronger and by far the largest portion of my Carnations is well established in small pots. These are in cool houses, a position for the winter better perhaps than frames, preferred if for only one reason—one can more readily attend to the wants of the plants. Frames are valuable for the winter quarters, inasmuch as they are cool, but the damping is not so well overcome as when light greenhouse stages are used. On these lattice-work bottoms air passes as freely about the pots as among the leaves; this is a great consideration. If frames are used, one may imitate such staging by placing boards on inverted flower-pots, thereby raising the plants close to the glass. This is an advantage in keeping a dry as well as a cool atmosphere. Air at all times is a necessity, the plant being quite hardy. What does harm to Carnations is cold, cutting winds. These conditions may be avoided by allowing air in green-

the cultivator is ignorant of its existence, the early stages being noted as tiny specks. At this time of the year it has the appearance of mere brown dusty spots, but by and by, if these are all allowed to develop, one will have no difficulty in seeing its larger form, which comes in wart-like lumps that burst and spread with great rapidity. The maggot is one easily dealt with if we are prompt. That is to say, its whereabouts are known by the white marks left behind in its way between the tissues of the leaves to the centre or pith of the plant's stem. This is the goal of the maggot or grub, and of course when that spot is reached the plant is useless for blossoming well the following year. I find a stout needle a capital instrument to catch this enemy. The work is not so easy in dealing with outside plants as with those under glass, but it must be done.

Watering requires some care during winter. The soil may not be allowed to become dry, but still it is best kept on the side of dry-

ness rather than in a soddened state. The latter soon leads to sourness and a loss of roots. Let watering be done during the earlier part of the day, so that superfluous moisture can dry before night. I use a small can, so that individual plants are easily picked out and their wants supplied. Care, too, is taken not to wet the foliage.

It is advisable to get the potting soil under cover now, as the plants intended for pot culture will be ready for a shift by the end of February and early March. This matter is too important to be left until required. If kept outside, the chances are that it will be in too soddened a state for use. Some growers even mix the compost months beforehand, but this is not so necessary, to my thinking. Loam is the chief part; this should be as full of fibre as possible. Thoroughly rotted manure, with a supply of leaf-mould in the same condition for the more weakly sorts, and coarse sand should also be at hand when required. Charcoal, again, is of great assistance in keeping the soil open and sweet.

The foregoing remarks apply more especially to pot culture; but in dealing with soils in the greater number of localities the better plan is to winter the Carnations in pots even if intended for an outdoor display; the plants can be managed easier in regard to pests and diseases, and one feels they are safe. On the sandy soil of this neighbourhood they usually winter well in the open ground. A rule, however, is to layer early and plant out before November, and in an ordinary season we look forward to good results. But in wet soils the losses of plants are generally too heavy, and it is wiser, I think, to take the extra trouble in potting and protecting with glass during the winter months. H. S.

Woking.

NOTES FROM NESTON, CHESHIRE.

I CAN add some items of interest on three points touched on in your last issue. From a letter just received from Mr. Edward Whittall, I find that it was his nephew and not himself who was carried off by brigands. Mr. Whittall gives a harrowing account of the state of things at Smyrna. A prolonged drought has resulted in widespread famine, and the poverty-stricken villagers are caught between the heavy hand of the tax-gatherer and the frightful prices now asked for food stuffs. Robbery and crime of all kinds have naturally become rampant. Mr. Whittall sends seeds of a new *Glaucium* with flowers of so brilliant a crimson, that they were conspicuous on a hillside half a mile off. The blue *Primula* mentioned in Sir J. D. Hooker's "*Himalayan Journals*" and referred to by "J. J. R." is *P. sapphirina*. I most heartily agree with him that it is most desirable to get it into cultivation, if only for the more effectual confusion of the washed-out or livid puce which are passing in the trade as the blue *Primrose*. Sir George King informs me that *P. sapphirina* is one of the most perfect gems in all the Himalayan flora. Some years ago he sent seeds of it home, but no trace or record of it is now to be found at Kew. Unfortunately, it is not among the exciting alpine plants of which Mr. Hobson has been sending seeds from the Sikkim-Thibet frontier. Last May, however, I heard from Dr. Prain, who has succeeded Sir George King at Calcutta, that the Sikkim collections, which have been almost abandoned for some years owing to causes connected with the native Lepcha collectors, are to be resumed and vigorously pushed; so there is good hope that we may shortly have the real blue *Primrose*.

In connection with Mr. Bean's most interesting article on the shrubby *Hypericums*, it is worth noting that there is a herbaceous species yet to come of a highly exciting character. This is *H. leve var. rubrum*. It is described in Dr. Post's

"*Flora of Syria and Palestine*" as growing on calcareous hills from Ain Tab northwards and eastwards, and having petals more or less deep red. I hope to have seed of it next year. What a pity it is that those of us who care for hardy plants do not unite to send a collector yearly to some of the many rich hunting grounds still untouched. I find that a £5 note will work wonders. A few of us united could probably send a collector, trained by Mr. Ford, of Hong-Kong, to the wonderful alpine riches of Yunnan or Western China. Why does the Royal Horticultural Society do nothing? ARTHUR K. BULLEY.

Neston, Cheshire.

DESTROYERS.

DESTRUCTION OF WORMS IN LEEKS AND CATERPILLARS IN CABBAGES.

FOR some years past Leeks have in the course of the summer been attacked by worms, or rather a kind of diminutive caterpillar, which eats the leaves to such an extent that the plant is rendered worthless. Sometimes even whole breadths are completely destroyed. After trying many ways of destroying this insect, I at last succeeded in getting a good result from using a solution of black soap. The mode of operation is as follows: Dissolve 2 ozs. of black soap in three pints of water and spray the plants with this solution, taking care to aim the syringe at the inside of the Leek, so that the liquid may descend into the heart of the plant. The grubs will be destroyed on the spot.

Although this dose of soap may appear a strong one to many, I affirm from numerous trials that this quantity is necessary to ensure success. If after several days living grubs are still to be found, it is well to repeat the operation. If, however, the first has been carefully performed and rain has not immediately followed, it will rarely require to be repeated. It ought to be undertaken only when the plants are dry and there is no water in the heart, as this water would lessen the force of the insecticide.

Soft soap dissolved is the best insecticide for caterpillars, but the dose of soap should be stronger for big caterpillars than for small. For caterpillars on Cabbages nearly 75 grammes of soap will be required to the litre of water; for other larger caterpillars the dose should be raised to 100 grammes of soap to the litre, but do not exceed this or it may injure the plants. To get a good spray with strong solutions of soap it is preferable to serve these rather warm. A good result also is obtained by adding petroleum to the soap solution, in which case the dose of soap may be lessened by one half—for example, 25 grammes of soap and 25 grammes of petroleum to the litre of water for small species of caterpillars, and 50 grammes of soap and 50 grammes of petroleum for the large kinds.—G. D. HUET, in *Revue Horticole*.

THE PEAR MIDGE.

I WAS particularly interested in reading the article on this subject in last week's issue of THE GARDEN, as I have been a considerable loser by its depredations in the last few years. It is difficult to say when the insects first put in an appearance in these gardens, but the attack was not sufficiently serious to attract attention until five or six years ago. The worst attack occurred three years since, when a great number of the most prominent fruits was injured on bush trees, and to a less extent on wall trees. I destroyed great numbers by hand-picking, but being but imperfectly acquainted with the life-history of the insect, knew not what other measures to take to circumvent it. The following year the attack was less virulent, and since then it has gradually become less, but still I have not got rid of the pest altogether, as was only too plainly to be seen by the swollen or gouty appearance of some of the fruits last sum-

mer. Since reading in the article in question that the larva of the Pear midge buries itself not deeper in the ground than 1 inch, and that the caustic solution caused by the dissolving of karnit is supposed to kill it, it has occurred to me that I have, though unknowingly, been reducing the numbers by the simple fact of spraying the trees with alkali wash each year. A good deal of the latter falls to the ground as the trees are being sprayed, more so under wall trees than out in the open, and it is easy to imagine that as it becomes absorbed and washed down into the soil by rain, a great many of the larvæ are then destroyed. Another thing which perhaps may account for the difference in the nature of the attack between wall and bush trees in former years is that the alleys under the walls were left undisturbed until after the spraying was done, while the ground under the bush trees was pointed over a few inches deep as soon as pruning was completed. In the latter case the spraying led to the newly-dug soil being trodden so hard about the trees that I had the pointing postponed in consequence last year, when the attack certainly was nothing nearly so serious as it had been previously. The fact of merely pointing the ground over no doubt placed many of the larvæ just out of harm's way and no more, as deep digging cannot be resorted to without great destruction of surface roots following. I may, of course, be wrong in my surmising, but I intend paying particular attention to the matter this winter, and shall have the surface thoroughly wetted under several trees, and sufficiently so that the soil is moistened quite an inch in depth, and then await results. The varieties most subject to attack with me are Jargonelle, Beurré d'Amanlis, Doyenné d'Été, Marie Louise, and Doyenné du Comice. There are, however, several other sorts, but those named have been the worst sufferers in this respect. A. WARD.

THE MARKET GARDEN.

MARKETING APPLES.

WITH the exception of the market men, who bestow the necessary amount of forethought and labour on the subject, the above is one of the things in which much has yet to be learnt by farmers and cottagers. There has certainly been an improvement of late, but such practices as shaking Apples from the trees, putting them pell-mell into the baskets, or packing a few layers of fine fruits on the top with inferior ones below have not, it is feared, yet died out, although the fear of exposure in the market has done much towards putting a stop to it. When the fruit is properly gathered and graded by making two samples of them, putting the best in one package and the seconds or inferior ones in another, then farm and cottage growers will obtain a much higher price for their produce than they do now. Packing, too, must be carefully done, so that the fruit will travel long distances when required without its being repacked again. Prizes are offered each year in open competition for the best-packed basket or box of Apples at the annual fruit show held at Hereford, which gives everybody a good practical object-lesson as to the manner in which fruit—particularly Apples—should be packed. Mr. Meats, the official auctioneer, also offered prizes for the same object last November, the conditions being that the fruit was to be packed in "corporation" hampers only. By these means, and by keeping the matter constantly before growers and the general public, it is hoped that the new methods will speedily displace the old, and that careless gathering, faulty grading and packing will soon become things of the past.

A great deal of the fruit is disposed of in the local market, where it is bought up by dealers

who attend for that purpose, and is then promptly despatched to various large towns. On the other hand, there are those who prefer to send their produce direct to such centres as Manchester, Cardiff, Liverpool, and Birmingham, where it is sold on commission. At any rate those who produce good quality fruit experience no difficulty whatever in disposing of it. Such has been the demand for Apples this year, that immense quantities of fruit, such as is usually converted into cider, have also been bought up, which have, it is said, found their way to the jam factories. Various kinds of packages are used for despatching the fruit in. For the local market (Hereford) the fruit is packed in the hampers supplied by the corporation, each of which holds about 56 lbs. of fruit. Others use pots such as are employed in the Evesham district, and these find favour in the northern part of the county. Others, again, pack in half-bushel and bushel sieves, and a great number avail themselves of barrels which hold from $\frac{1}{2}$ cwt. to 1 cwt. each. If the packing is properly done, the latter are first-rate receptacles for despatching fruit in to long distances, as they are easily handled and the contents are not so easily bruised as when packed in baskets.

Prices, of course, vary considerably. During the past season something over £1 per cwt. has been realised for choice samples, while for good quality fruit the prices have ranged from 10s. to 18s. per cwt. Medium quality fruit made from 7s. up to 10s., while inferior samples fetched from 3s. to 5s. per cwt. Many tons have been disposed of during the past autumn at the latter figures, quite a brisk trade having been done in this class of fruit. A. W.

STOVE AND GREENHOUSE.

LAPAGERIAS.

PERFECTLY cultivated plants of either the varieties of *Lapageria* are not particularly common, and it is a curious fact that in many cases where apparently little trouble is taken with them they do remarkably well, while in others the cultivator may try his utmost and only be partially successful. In the old-fashioned dark houses—still, unfortunately, in vogue in some places—*Lapagerias* may frequently be seen doing well, and owing partly to this the plants have been considered by some to need a very dense shade. As a matter of fact, it is almost impossible to give them too much light, especially in autumn, but the light must be accompanied by a proper supply of air night and day. In Gloucestershire a few years ago I saw one of the finest *Lapagerias* I had ever seen, and this was growing over the roof of a large conservatory the glass of which was entirely unshaded. Cool house Palms, large Camellias and other plants were grown in the house, and the immense *Lapageria* formed a welcome shade over these, though itself exposed to the full sun. Every year large sucker-like shoots pushed up from the base, almost as thick as a man's finger, grew at a great rate and covered the large expanse of roof. The house was always freely ventilated and damped, and there is no doubt that the moist atmosphere without an approach to closeness tended to make this plant a success. Anyone who is trying to grow either the white or red kind in small cooped-up structures should give his plants more light and air.

Lapagerias abhor being disturbed at the roots, and more than once I have turned out large old plants that had been shifted several

times and could see the ends of the roots dead after each shift. The sooner the cultivator makes up his mind where a plant is to be put and puts it there the better chance that plant has of growing to a large size and good old age, for although each new stem puts forth a fresh tier of roots on its own account, after the manner of herbaceous plants generally, a great check is given whenever the young points of the roots are in any way bruised or damaged. Again, the roots are curious in their likes and dislikes. I have traced them for several feet through the hungry red sand of the West Gloucester district where they seemed to positively revel, and have, on the other hand, found them blackened as if burnt when they have approached a lump of good turfy loam. This explains why many plants, after apparently getting well established, often sicken and refuse to grow. As long as they remain in the border prepared for their reception they are all right, but perhaps this border has been dug out where the natural soil is a stiff clay; the roots reach this and make no further progress. They often do the same thing if planted in a new pot or a painted tub or box. It is evident then that to grow a *Lapageria* properly one must have a suitable root-run that the plants will not grow out of for a few years. This is easily provided, and the next care will be to avoid over-moistening this somewhat large bulk of compost before the roots have had time to take hold of it. A deep root-run is not necessary—should be avoided in fact—but if a few roots can be coaxed to any constantly moist spot, such as often exists in greenhouses and conservatories, it is surprising how the plants appreciate it. A free-working loam without much lime in it, plenty of properly prepared leaf soil and peat, with enough sharp sand and nodules of charcoal to prevent the whole settling closely, is a compost suitable for *Lapagerias*. When well established in this, feed the plants liberally from above, and this will ensure a quick growth and at the same time prevent the roots descending to bad soil in search of food.

Regarding the choice of plants, I would always prefer nice healthy, young layered ones, or even seedlings to large specimens that have been reared in pots, by reason of the peculiarity of the roots noted above. Where for years the growths have been twined and trained round sticks or some similar support, they are almost sure to be covered with insects of one kind or other, but clean, young plants may be kept so by exercising ordinary care. Almost every known blight preys on these plants if allowed to. Green-fly attacks the tender young shoots, while scale and mealy bug are fond of the older leaves and stems. Perhaps the worst of all, however, is thrips, this being one of the most troublesome to destroy. When a plant gets really dirty, repeated fumigations are necessary, and these must be followed by cutting out the weakest and worst affected shoots and by diligently sponging with approved insecticides. If the syringe is freely plied about the plants morning and evening all through the growing season, it helps to keep them clean, and if clean water is used, it will not damage the flowers. H. R.

Andromeda floribunda in pots.—What a useful shrub this is! It is especially good for lifting in a medium-sized state and potting for decoration at the dull time of the year. Nice dwarf, well-furnished plants placed in 9-inch or 10-inch pots in any loamy and leafy compost come in most acceptable for the conservatory, and even though the flowers are not of the purest colour, sprays cut and arranged in glasses have a cheerful

look about them. As a border plant it succeeds very well in a light sandy loam, and if a little peat can be added, so much the better; failing the latter ingredient, leaf-mould is a good substitute.—B. S. N.

Coloured Selaginella.—As an edging to the fine group of *Chrysanthemums* which Mr. Norman Davis had arranged at the recent Aquarium show was a quantity of *Selaginella denticulata* beautifully coloured, and in the artificial light singularly beautiful. I found that it was hardly less charmingly coloured in the daylight. He said in request for an explanation as to this unusual coloration that the house in which it had been grown had been allowed to become both cold and dry, and the low temperature seemed to have been the chief cause of the fine colour.—A. D.

Terra-cotta Carnations.—It is rather singular that up to the present no really good reliable terra-cotta-coloured Tree Carnation has found its way into commerce. Such a variety is really what is needed, as it is a fashionable and much-appreciated colour. A few years ago a friend of mind living in Suffolk raised a vigorous, free-flowering terra-cotta variety, the flowers being of extra large size and very shapely. Blooms of it were sent to a London salesman, who declared that if the raiser could only secure a good stock of it, it would bring him a little fortune. Somehow or other he failed to do this, and I have an idea he lost all the stock.—C. N.

Pink Tree Carnations.—Opinions seem to differ much as to which is the best all-round pink winter-flowering Carnation. A few years ago those who could not grow Miss Joliffe could find no substitute. Since then several others have been introduced, amongst them *Thérèse Franco* and *Reginald Godfrey*. The former, however, does not seem to deserve the praise accorded it at the first by some, and I learn that market growers are discarding it. *Reginald Godfrey* seems to be gaining favour, but it will not only have to produce good blooms, but plenty of them if it is to replace Miss Joliffe. *Mistral* is spoken well of as a good pink-coloured tree variety, but I have not proved it. What is wanted is a variety as free-flowering as Miss Joliffe.—N.

Pellionia decora.—This is a pretty little creeping plant suitable for hanging baskets in a moist stove. The stems are bright red and the leaves velvety green, striped and prettily mottled with a silvery white. The younger leaves are pale green with a red suffusion. It is like some of the better *Fittonias*, but smaller in all its parts, and under artificial light has a very beautiful appearance. It is a free grower when established, growing from a number of joints and forming a dense plant, well filled out in the middle, where *Panicums* and similar things are often bare. It strikes readily from cuttings in a light sandy soil, and should be grown in a rather poor, but light and open compost, keeping the roots moist all the year round.

Carnation Belle Rose.—What a pity it is that this grand Tree Carnation cannot be grown with more certainty. If only a remedy could be found for its dying off it would be the most profitable scarlet variety in cultivation. The colour is rather paler than in the well-known *Alegatiere*, but very delicate, and on well-grown plants the blooms come of large size. Unfortunately, one may grow a batch of large bushy plants and house them in perfect health only to see them go off wholesale during the winter. The grass withers without the least warning, and the plant is gone in a few days. A few growers seem to manage it well, and Mr. Taylor when at Longleat used to do it splendidly. He practised disbudding, and the individual flowers were very large. In one garden in Kent a sufficient number of plants to fill a 50-foot house was grown, but as a rule nearly half the plants died off before the spring.—J. C.

Begonia President Carnot.—Could you inform me what is the best temperature to winter *Begonia President Carnot* in? I have been keep-

ing it in a moist temperature of from 60° to 70° and found it damp badly. I then placed it in a drier place in a temperature of 50° to 60°, and still find it damps.—A. P.

* * This *Begonia* will winter well in a temperature of from 60° to 70°, but it is necessary that a fairly dry atmosphere be maintained, otherwise the foliage will damp. A temperature of 50° to 60° is too low to keep the foliage in good condition throughout the winter. In some districts, especially where fogs prevail, and this applies particularly to the neighbourhood of London, many of this class of *Begonias* will lose nearly the whole of their leaves, but will break again freely with the return of spring. When the foliage shows a tendency to decay, it may sometimes be checked by removing the plants to the driest portion of the structure and refraining from wetting the foliage. Elevating the plants on pots will do something towards checking decay, and, of course, the watering must be carefully done, the soil being kept rather dry than otherwise. In the case of *Begonias* belonging to this section when the foliage once begins to decay it is by no means an easy matter to stop it during the depth of winter, but the above instructions if carried out will help to tide over the difficulty till the growing period comes round.—H. P.

CESTRUM ELEGANS.

THIS is, perhaps, better known as *Habrothamnus elegans*. Although not, strictly speaking, a climber, it is a fine plant for a conservatory wall, and requires some room to flower it well. I have seen it planted alternately with *Plumbago capensis*, the crimson and blue forming a good contrast, and by judiciously thinning the plants some bloom may be had nearly throughout the year. As a greenhouse plant it cannot be too highly recommended, but, unfortunately, like many other good things, it has in the race for novelties somewhat dropped out of cultivation. *C. Newellii* is a garden variety with deeper crimson flowers and perhaps rather larger trusses of bloom. In addition to being so useful for the conservatory the above may be recommended for cutting, as they will often give a supply when other flowers are scarce. If cut before the trusses of bloom are fully out the flowers will last fairly well. I think many flowers get a bad name for lasting through cutting them at a period when, if left on the plants, they would drop naturally. *Cestrum aurantiacum*, though not so free-flowering as *C. elegans*, is a desirable greenhouse plant, the large terminal corymbs of orange-yellow flowers being very effective. I find when struck from strong cuttings put in early in the spring and grown on in a cold pit during the summer, the plants if well exposed will not run up tall, but will make broad foliage and produce a large terminal cluster of flowers. I have had plants about 18 inches to 2 feet high which have proved very attractive. It will grow freely in any ordinary potting soil, but must be well exposed to the light and sun if it is desired to flower it in a dwarf state. A.

Bougainvillea glabra Sanderiana.—What is the right way of growing this? I have had plants three years, but I cannot get them to flower.—R. K., St. Petersburg.

Winter-flowering zonal Pelargoniums.—For producing a great quantity of bloom from November and on through the winter months I find nothing to equal the dark crimson-flowered *Henry Jacoby*. The way I secure the requisite number of plants is within the reach of everyone who grows this variety. This is simply to pot up the old plants as they are lifted from the flower beds in the autumn. The plants are first cut back into shape, any that are too leggy being rejected. They are then potted in ordinary compost and placed in a warm pit to break. This they do quickly, and form a number of new growths which soon flower and continue to do so all through the winter. *Daphne* is another

sort which is almost as free when treated in the same manner. I also grow a few other named sorts for autumn and winter flowering, but none are so free and satisfactory as the above two named sorts when treated in the way described.—A. W.

Impatiens Jerdoniæ.—This pretty Balsam is not often seen. It is very distinct both in growth and flowers. The peculiar inflated portion of the calyx is bright red, and is set off by the yellow portion of the flowers. The thick fleshy stems of a dark reddish brown are contracted between the joints, and each division has the appearance of a large brown slug. Some years ago I grew this and found it do well in an intermediate house. It may be propagated from cuttings early in the spring and will make nice flowering plants by the autumn. It does not form a great mass of bloom, but keeps up a succession for a considerable time. The chief point is to keep the plants free from thrips and red spider. It comes from the Neilgherries, and although it is classed with greenhouse plants, it makes more satisfactory progress when grown in more warmth and should be well exposed to the light. A rich loamy compost may be used, and as the plants begin to flower, liquid manure may be given freely.—A.

Pelargonium West Brighton Gem.—The above variety deserves all that is written of it on p. 455. For the flower garden I have grown it largely, and consider it one of the best for that purpose. Its habit is dwarf, and even in wet, sunless seasons *West Brighton Gem* retains its sturdy habit instead of becoming a mass of sappy growth, as is the case with some other varieties. It is free blooming from the time it is planted out till late in the autumn, even when the weather is not altogether favourable. For making masses of bright scarlet no *Pelargonium* is better than *West Brighton Gem*. I have found this variety invaluable for providing cut bloom through the winter as well as for planting out in the summer, and in a stock comprising several thousands of rooted cuttings there were always scarlet blooms to be had through the duller part of the winter. Grown entirely for the embellishment of greenhouse or conservatory, or for the furnishing of window-boxes and vases, there are few varieties of *Pelargonium* so useful as *West Brighton Gem*.—G. H. H.

Reinwardtia trigyna.—This is very useful for autumn and winter flowering. When well managed it keeps up a succession of its bright yellow blossoms for a considerable time, and these are well set off by the rich deep green foliage. It is now some time since I saw this in good condition, but some years ago it was a very popular plant in Sussex. It was, perhaps, more generally known as *Linum trigynum*. Cuttings root freely in the spring, and may be started in warmth and afterwards grown on in a cool frame. It hardly makes a good flowering plant the first year; plants that have been cut back and grown on the second year will flower very freely. It should be potted in good loamy compost, treated liberally early in the season, and then well exposed to ripen the wood in the autumn. Taken under cover about the first week in September, the plants will soon begin to flower. Red spider is its greatest enemy. I used to grow it in a shady position, but found if kept too moist the flowers were apt to damp off, especially if the old blooms were allowed to decay on the stems.—A.

Hoya carnosa.—A correspondent criticises (p. 434) a short note of mine on the above plant. If he will turn again to my note he will see that I did not give the particulars as representing well-grown plants from his point of view, but simply to show the accommodating nature of this *Hoya*. I certainly said that I never saw plants flower more freely or have finer trusses than these have produced for many years in succession, and I shall never expect to from plants grown on the lines laid down by my critic, viz., those of cutting away useful old wood to make room for the new.

Old flower-stalks produce quite as large blooms as younger ones do and more of them on a stalk, and where the difference in prettiness or brightness comes in I fail to see. † Probably had I grown the plants on the principles adopted by my critic I too might have had to bewail their loss through frost, but, knowing the dangers of the position they have to fill, I am careful to give only a limited root-run and to keep that full of roots; this and a careful supervision over the water supply during the winter have doubtless proved their safeguard more than once. The plants do, as my critic imagines, fill their allotted space, and to this extent I think I may claim them to be "well grown," especially as they flower very freely under the conditions given. Is my critic aware that this *Hoya* has been known to attach itself to a wall after the manner of an Ivy, and to grow and flower freely in such a position for years after the roots in the soil have died out? This, of course, could only happen in a house with a moist, warm atmosphere; still, the fact may be used as an object-lesson to show how little a part soil has to play in providing for the needs of the plant.—L. P.

NOTES OF THE WEEK.

Ionopsidium acaule.—I have now in flower in the open several patches of the pretty annual *Ionopsidium acaule*. I wonder it is not more grown than it is, as it makes a bright spot in the garden at this time of the year. It dies away in the summer, sows itself, and flowers in the autumn.—EDWIN CLEMENTS, Caerleon, Kildiney, Dublin.

Chrysanthemum Miss Harvey.—This, if small in flower, is one of the prettiest of the small decorative white kinds. The florets, as indeed the whole head, are rendered distinct by the splitting of the petals, that give a somewhat forked appearance to the flower. Judging by its size and its purity and freedom, it would be very useful as a late white.

Poinsettias.—In the warm conservatory just now these are much valued, and the finely-coloured bracts show to great advantage. In the sitting-room its chief drawback comes from the plant so quickly resenting a change of temperature, with which, if at all moist at the root, the leaves fall off rather quickly. By keeping the plants fairly dry at the root, the result is considerably modified.

Sweet Violets.—There is still an abundance of fragrant *Violets* to be gathered in the open, so remarkable has been the weather up to the present time. Rich in colour as well as perfume, with stems of remarkable length, we have no flower whose popularity is greater. A few bunches in a close, warm room emit a fragrance that pervades it to its utmost limits, a fragrance, too, of which one rarely tires.

Agathæa cœlestis.—The number of winter-flowering plants with blue flowers is very small, and of the few, this species cannot at all boast of large blossoms. It is not size altogether, but the quantity that so materially assists in making this an acceptable subject for winter work. The exceptionally coloured flower-heads come in considerable numbers, and a small handful placed in a specimen glass is very attractive.

Flowers artificially tinted.—The paper-white *Narcissus* is no longer "paper-white," because it has fallen on evil ways, and is now dyed by steeping the flowers through their stems in coloured liquids. This artificial colouring is both unnatural and repulsive, the amount of the pigment absorbed in some instances being quite double that in others. One can scarcely imagine why beautiful flowers are treated in this way.

Camellia alba plena.—It is probable that the demand for blossoms with long stems should have played its part in ousting the usually stemless flowers of this, and the formal *Camellia* now no longer finds its way into the best floral devices. As a flowering shrub in the conservatory, however, the plant is of great value. In some few places an assortment of *Camellias* is still grown, but the plants themselves are not great demand.

Cyclamen neapolitanum.—In the depth of winter in a walk round the garden there are few more pleasing sights than a good clump of *Cy-*

clamen neapolitanum nestling at the base of a Lilac tree. The zoned and marbled foliage is very glossy and looks bright among the dead leaves which lie among and around it. The leaves are set off, too, by the bright green Moss which covers the stones that edge the footpath adjoining.—S. ARNOTT.

Pelargonium Crabbe.—Among winter-flowering zonal Pelargoniums, perhaps no finer variety than this has ever been raised. It is indeed as remarkable in its fine form as in the colour, both being of the highest merit. The exact shade of colour presented is scarcely described in calling it a salmon-scarlet, for it is one of those intense shades that not only baffle description, but one which is at once singled out in a large and varying selection of the best kinds. It is very decided, too, the exact shade of salmon being very bright and pronounced.

Acalypha hispida.—It is not at all improbable, judging by the vigorous and generally hardy nature of this plant, that decorators will find it well nigh indispensable in winter-time owing to its free growth and the brilliant array of floral appendages. The effect of a large number of these coloured tails gracefully drooping over the handsome foliage is great. It is obvious, too, that the colour is long retained, as the variation was slight in the oldest and longest at the base and the youngest at the tips of the plants. Were it otherwise, much of the value of this remarkable plant would vanish.

Iris juncea.—The beautiful plate of *Iris juncea* and its variety *numidica* which appeared in THE GARDEN of December 10 should bring home to some the value of these flowers. *I. juncea* has with me the rather serious fault of making growth early and having its leaves injured by late frosts. From this cause I have lost it several times, and have finally given up growing it, as one cannot protect everything needing care at a season when these late frosts are most dangerous. No one who has ever bloomed the Rush-leaved *Iris* is likely to forget the beauty of its flowers.—S. ARNOTT, *Carsthorpe, by Dumfries, N.B.*

Galanthus Olgae Reginae.—About three years ago a Snowdrop, which was understood to be *Orphanides' G. Olgae*, was offered under the above name. The price was, for a Snowdrop, rather high, and I only purchased one bulb. Unfortunately, although there are now three bulbs, I have not yet had a flower. Can anyone who has had this *Galanthus* in the United Kingdom give his experience of its behaviour with him? It is for one of its class, that of the autumn Snowdrops, a fairly good grower, but its non-flowering is a great disappointment. The glaucous line down the centre of the leaf, so marked a feature of this class of Snowdrops, is very pronounced in *G. Olgae Reginae*.—S. ARNOTT.

Jasminum nudiflorum.—Many plants of this on cottage and villa residences, where in the course of years they have assumed considerable size, are now gay with a profusion of yellow buds and blossoms. Some plants not many yards from where this note is being written cover a large space and will make a pretty picture for a long season. Too frequently when this is planted and trained to a wall or building, it is not allowed sufficient space to prove its worth. In other instances where years and a comparatively unrestricted growth have produced large examples, the plants yield their pretty flowers in plenty. The variety of winter-flowering shrubs is extremely small, and for this reason we should make the most of those we have.

Cypripedium insigne.—Few Orchids are of greater value than this well-known old kind, and where a good strain exists it should be encouraged. Its general hardiness, vigour, freedom of flowering, and simple requirements fit it for the amateur who has but little time at his disposal. A cool greenhouse suits it admirably, and during the summer months a partially shaded frame or pit is better still. With this treatment it is possible to retard the flowering very considerably

and secure a fine display of bloom in the depth of the winter season. The advantages on the side of cool treatment are considerable, not least being a good display of flowers about Christmas. Hardly grown throughout, the plants do not suffer in the same proportion when subjected to the uncongenial conditions of the sitting-room for a fortnight together, as do those grown in warmer structures. This is greatly in their favour, and should not be overlooked by those who would like to grow at least one Orchid that could be regarded with favour at flowering time.

Christmas Roses.—If any flower is deserving of popularity at this time it is surely the Christmas Rose, undoubtedly the most precious of winter flowers. No other hardy plant can possibly produce the same results as finely-established masses of this, the finest examples of which often yield a hundred or more blossoms each. But it is when the plants receive more than ordinary care, and the flowers expand almost without spot or blemish, that the blossoms as much as the plants in the open garden possess an even greater value. Isolated examples are best when the protection intended for them is given early. No plant has such a fine effect in a garden as this, and where specially grown and well suited, the masses of pure white, slightly cupped flowers are very effective. It takes time, however, and a soil specially deep and good to obtain the best results.

Luculia gratissima.—The warm greenhouse just now contains no finer flowering plant than this, with its splendidly formed heads of fragrant and delicately coloured blooms. Unfortunately, however, the plant is not always a success under cultivation and is rarely grown to a large size. Hence it is that so fine a subject for midwinter flowering is only seen occasionally, and then not in anything approaching specimen size. This is unfortunate, inasmuch as the largest heads of bloom are not usually produced on small plants. At the same time, with careful attention to cultural details, some very beautiful trusses of bloom result. Too often, however, the plant becomes a victim to excessive watering, a thing which above all else it cannot long endure. Good ordinary plants may be grown in pots of 12 inches diameter, with a third of this devoted to drainage. The airy conditions of a warm greenhouse are infinitely better than a moist stove for this plant, a splendid example of which may be seen flowering at Kew.

National Chrysanthemum Society.—A meeting of the executive committee was held at Carr's Restaurant, Strand, on Monday evening last. Mr. P. Waterer occupied the chair, and after the usual preliminaries were disposed of it was formally announced that the annual dinner was a decided success in every respect, and a vote of thanks was passed to the sub-committee responsible for its management. A report was submitted from the floral committee as to the dates of meeting for 1899. There was also a report submitted by the classification committee, dealing with the question of too-much-alike varieties and the classification of some recent novelties, particulars of which will appear in the society's new schedule.

Outdoor labels.—The system of labelling recommended by "M." (p. 488) is an extremely good one, but will not do for fruit trees when the latter are winter dressed with insecticides containing strong alkalis—at least, such is my experience. No matter how well the labels are written and afterwards varnished, such insecticides destroy the varnish; the writing then becomes less distinct and finally disappears altogether. For fruit trees the raised metal labels as now sold are I consider the best. I am about to replace a great many of the former which have become illegible with them.—A. W.

—In the number of THE GARDEN for December 17 "M." gives a suggestion for outdoor labels which in a large establishment where time and money are no object is no doubt all that

can be desired; but for the amateur, who perhaps requires two or three labels a week, the arrangement of emery paper, leather, ink, brush, and varnish is more than can be managed. Painted wood labels, of course, will not last, and the supports of the celluloid labels are too short without further support. To overcome the difficulty I have for the last four or five years used some zinc labels from MM. Vilmorin-Andrieux and Cie., of Paris, which may be written on with an ordinary lead pencil, and so far last admirably and are not expensive. They require no preparation and are always ready for use. The most convenient size for me is 20 mm. wide and 150 mm. long. No doubt these labels can be obtained in England, but so far I have failed to find them in the catalogues; all the zinc labels quoted there seem to require special ink.—H. S.

The weather in West Herts.—The recent spell of warm weather, which had lasted for nearly three weeks, came to an end on the 19th. During this period there did not occur a single unseasonably cold day and but two cold nights. Since then the days have been much colder, while on the last two nights the exposed thermometer has registered respectively 8° and 5° of frost. The ground temperatures, however, still remain very high for the time of year, the reading at 2 feet deep being 5°, and that at 1 foot deep 3°, warmer than is seasonable. Rain fell on but two days of the week, and to the total depth of only about a quarter of an inch. For more than three weeks the wind has come almost exclusively from some southerly or westerly point of the compass.—E. M., *Berkhamsted.*

Sulphate of iron for Roses.—My employer has been told sulphate of iron is a good thing for Roses. Can you give me any information respecting the quantity to use for pot Roses and planted out in the house? Is it beneficial to Roses outdoors, and what is the best time to apply it?—R. A.

Name wanted.—I am very much obliged to Mr. Burbidge for the information he has so kindly given me about the Aroid that produces tubers on its leaf-stalks. From the tracing of the figure of *Pinellia tuberifera*, it is evidently the plant I was inquiring about, and of which a drawing was sent me from Ningpo. It seems curious that these tubers should grow from the middle of such slender leaf-stalks, though one can understand their growing from the axils of the leaves instead of ordinary buds. From what Mr. Burbidge says, this method of reproduction is by no means uncommon among Aroids. I expect that the leaf-stalks in these plants partake really more of the nature of stems.—G. S. S.

Rats in vineries.—Mr. Burrell (p. 437) mentions the fact that in some gardens rats give much annoyance by burrowing through the arches from the outside to the inside border and taking the Grapes wholesale. In one garden rats had been troublesome, but on my taking charge new borders were made and fresh Vines planted. At first the roots were confined inside, but eventually the archways were cleared and outside borders made. Knowing rats to be numerous in the plantations around the garden, I felt some means must be adopted to exclude them from the vineries. I found an effectual remedy by fastening a double thickness of deep wire netting over the arches, letting it extend down to the drainage. This was no hindrance to the free access of the roots, and I never had a rat in the vinery.—J. CRAWFORD.

BOOK RECEIVED.

Catalogue of the Lindley Library. Royal Horticultural Society, 117, Victoria Street, Westminster.

Names of plants.—T. S.—1, *Cupressus Lawsoniana* var.; 2, *Thuja occidentalis ericoides* (commonly called *Retinospora dubia*); 3, *Sequoia sempervirens* (Redwood); 4, *Thuja occidentalis*; 5, *Thuja gigantea* (Lobbi).—Fritz.—*Epidendrum cochleatum*.—G. W. C.—*Odontoglossum Ruckerianum* (good variety).—Rector.—*Bulbophyllum umbellatum*.

pans or baskets 6 inches across. The stems finish up in early autumn or late summer, according to the time they are started, this, where a number of plants are grown, keeping up a succession. Rest the plants thoroughly without going to the extreme of allowing the bulbs to shrivel, and bring them on gently at first, or but few flowers will be produced.

Dendrobium Johnsoniæ.—This beautiful species is occasionally seen, but it is a bad traveler, and many of the plants that have been imported have been so shrivelled that they must take some years to get really well established. A nice plant I noted during the week had five of the chaste-looking white blossoms, and these make one long for more. In habit it is intermediate between the evergreen kinds of the densiflorum class and the Australian kinds, but the flowers are all in favour of the latter. The blossoms are each about 4 inches across and pure white, with the exception of a few purple streaks about the inner side lobes of the lip. They occur eight or nine together on semi-erect racemes. *D. Johnsoniæ* does best in plenty of warmth, and should be planted in pans or baskets, these being suspended close to the roof. The plants usually commence to grow in late spring or summer, and the flowers occur upon the newly-made pseudobulbs. During the time they are growing and root-action is going on they must be kept very moist, but they are better for a distinct rest after the flowers are past. This need not mean drying the plants up, but by giving a cooler house and rather drier atmosphere the eyes will remain dormant while still keeping plump. This is an Orchid of many names, but the above is the one under which it was first described. It was named *D. Macfarlanei* by Reichenbach after the Rev. S. M. Macfarlane, who sent plants to Messrs. Veitch in 1882.—H.

Gongora maculata.—Though seldom seen, this species is very interesting, and in its better forms showy enough to be included in all collections. The flowers are produced on pendulous racemes at various times in the year, and vary in colour from yellow to pure white, being usually spotted with red. The bulbs are strong and deeply ribbed, light green, and bear stiff lanceolate leaves. *G. maculata* is an easily grown plant, which from the direction taken by its spikes looks best when grown in baskets. These should be well drained, when the compost need not be disturbed for several years, the plants being more free-flowering in this way than when frequently pulled about. Spring is the best time to renew or add to the compost, this consisting of good fibrous peat, Sphagnum, and a little nice clean fibrous loam. The roots when the plant is healthy are so freely produced, that they frequently push not only right through the compost and drainage, but upward and outward into the congenial air of the house. It likes a very moist atmosphere, plenty of water at the roots, and frequent light dampings overhead when the weather is fine. The temperature of the Cattleya house suits it well, though a few degrees higher does no harm. Plenty of light the whole season is advisable, but scorching of the foliage is, of course, to be avoided. *G. maculata* is a native of Damerara, and was introduced in 1832.

Cirrhopetalum picturatum.—This species is a good instance of the peculiar form so common in the genus, the umbel of flowers sustained on a wiry stalk about 6 inches in height. Each flower is about 2 inches in length, the prevailing colours being dull red and green. It is by no means common, though it has long been in cultivation. Its treatment is not particularly difficult, but it requires care beyond the ordinary if the best results are looked for. Being of rather dwarf habit, the receptacles for it must not be very large, nor is much compost needed. Fine plants may be reared on wooden rafts, such as are often used for the Mexican *Lælias*, and on this a thin compost consisting of peat fibre and Sphagnum Moss must be firmly placed, the plants being wired down to this and all ragged ends removed.

As the plant extends new compost may be given, and thus disturbance of the older roots will not often be necessary. The best place for it is a light position in the East India house, suspended near the roof-glass if possible. This ensures a solid yet quick growth, and if carefully treated as autumn draws on, it will flower freely. It requires very little water after the growth is finished, many plants having been ruined by giving too much at this season. *C. picturatum* is a native of Burmah, and has been found in various parts of the country by different collectors since first it was introduced in 1840.

Zygopetalum Mackayi.—In writing of this fine winter-flowering plant, I mean the one usually known in gardens under this name, a name that some botanists say belongs rightfully to a rare and almost unknown species. Its great merit, of course, lies in the fact of its flowering in winter and lasting over so many weeks in full beauty; but no matter when these fine flowers are produced, no one can help admiring them, the pretty blue of the broad, handsome labellum contrasting well with the more sombre brown and yellow of the sepals. The cultivation is not difficult, one of the chief points being cleanliness, as the soft foliage and bulbs when young are very apt to be attacked by brown scale, a pest which, though easily got rid of, is sure to leave its mark behind after a severe attack. The bloom-spikes appear in the centre of the young growths, and as the plant is therefore growing and flowering at the same time considerable moisture is necessary, though it is often dull, cold weather at the time. If the plants flower at the same time as *Calanthe Veitchi* and others of this class, the *Zygopetalum* has a very fine appearance when associated with them, and many a pretty winter picture might be produced with these two plants. It requires a good sound compost and a liberal addition of clean fibrous loam and leaf-mould, and the usual Orchid compost is greatly relished by the large fleshy roots. The plants dislike being disturbed, and it is important that they be kept in good health, for if once they get into bad condition they are bad to bring back to a satisfactory state.—H.

RESTING ORCHIDS.

THE term "rest" as applied to Orchids is one often misunderstood. To many novices in their culture it means simply a withholding of the water supply and a lowering of the temperature. But it is more than this. Rest is not, perhaps, the exact term to use, and recuperation is quite as unsuitable. It is a cessation of growth as far as outward appearances go, but the economy of the plant is, of course, still going on. If all Orchids were alike in their needs, the resting season would be a very easy time for the cultivator, but they are not, and for this reason the grower must still be on the alert and give to each plant the attention it needs. Pseudobulbous species, as a rule, take a dry rest, though there are exceptions to the rule, and some like a longer resting season than others. Evergreen bulbous species, too, rest, but these in the majority of instances require a little moisture the whole year round, the quantity depending upon the habit of the individual kind. Although the present is the quiet season for most Orchids, there are a few kinds that are growing freely while others are just beginning to be active. While the majority, then, are kept cooler and drier, these will need to be more or less encouraged. As a well known example we may take *Cypripediums*. Often when the flowers are open these plants will be stood about in draughty conservatories and rooms, but if the cultivator would look at the plants he would see that these have not only the strain of flowering to keep up, but many of the species are already in full growth. Yet the plants are exposed to the very worst conditions possible

for them. This is too obviously wrong to need comment. As a general rule the species and hybrids of *Cypripediums* that flower during the winter months are comparatively quiet during the late summer, and it is only reasonable to let them rest then. The flowering is the commencement of the active season, and this should be kept in mind. The cool house at this time of year contains quite a large number of Orchids that are growing. Some grow more or less all the year, as the *Odontoglossums*, others, as *Cattleya citrina*, are in the middle of their season and will rest later, while there are always some individuals among those that should be at rest which have not made up a proper growth and require a little more time. To sort these out, and I have only mentioned a very few, will be the work of the cultivator now. In some instances it will perhaps be necessary to group the resting plants at one end of the house and those in growth at the other, while, of course, the watering will have to be very judiciously carried out. But only in a very few cases is a perfectly dry régime required, and it is well to remember that even these are not dead sticks, but living plants.

Dendrobium bracteosum.—Although the individual flowers of this species are very small and insignificant, they are very freely produced in dense racemes, and thus the plants make a pretty show. It is a fairly strong grower, the stems on strong plants being about a couple of feet high, strictly deciduous, the flower-spikes appearing at the upper part of these. In colour the flowers are a pretty soft rosy purple, and it is worth growing where curious and interesting species are liked. The plants may be placed in medium-sized pots or baskets suspended from the roof with the other deciduous kinds while making their growth, and a short season of rest is usually needed. Besides the type, the white form, *D. b. album*, is well worth growing.

Cymbidium Tracyanum.—Some fine forms of this rare species were shown at the Drill Hall on December 13, the one included in Messrs. Veitch and Sons' group being especially good. It is a fine, handsome plant, and seems to be turning up oftener. In habit it is very like *C. Lowianum* and *C. giganteum*. The spike referred to had eleven flowers, large and bright in colour. The sepals were broad and substantial, the pretty yellow and crimson lip lighting up the whole flower and giving it a much brighter appearance than in *C. giganteum*, which it most closely resembles. It thrives well with the other kinds named in the cool house, and, like them, requires a free and open yet substantial compost, the roots being strong and vigorous. In all essential details the treatment is the same as advised for *C. giganteum*.

Seedling Cypripediums.—Hybridisers have now quite mastered the art of raising seedling Orchids and *Cypripediums*, and the flowering of hybrid plants is now looked upon as a very common occurrence. The time the plants took to flower is much less than formerly, but I should think the *Cypripedium* shown at the Drill Hall by Mr. R. I. Measures, of Cambridge Lodge, Camberwell, on December 13 is about a record for time. The plant shown was a typical one, strong, fresh and healthy looking, and was raised by Mr. H. J. Chapman from *C. callosum* and *C. leucochilum*. The seed was sown on January 26, 1896, and the plant opened its first flower on December 6 of this year, so that it is well under three years. As far as the bloom is concerned, it is a very pretty one, and a good deal like *C. Wottoni* (*C. callosum* × *C. bellatulum*), which was shown in the same group.

Phalænopsis amabilis.—Very lovely now are the racemes produced by this splendid Moth Orchid, and though many growers in the neighbourhood of London would rather they flowered at any other time, those in the country have no

such cause for regret. Although it can hardly be said that this species is as easy to grow as any Orchid, it is certainly one of the best, if not the best, of the genus to cultivate. The plants must never be left to take care of themselves, so to speak, as may sometimes be done with deciduous kinds that take a long dry rest. They require watchfulness and care the whole season through, or the results will be poor. It is true the plants have an active season and one of comparative inactivity, but these are not so sharply defined as are those of the kinds with which I contrasted it. They may, it is true, be recognised by the grower, but a plant will occasionally enter the resting season with a leaf half formed, and though all experienced growers would rather see the full leaf, no good will follow trying to make the plant complete it. The seasons must glide in and out of each other, so to speak, and then the plants get injured to the altered conditions. *P. amabilis* likes rather more root room than the majority of Moth Orchids, and though disliking closeness of material as much as any, the roots will push through and ramify in a fair thickness of nice clean fresh Moss. Disturbance is of course unavoidable now and then, but it should not be oftener than absolutely necessary, and plants grown in wood baskets may, by carefully removing piecemeal all old and sour material and adding new, be left in these until they decay from the moisture in the house.—H.

KITCHEN GARDEN.

EARLY POTATOES FOR SHELTERED BORDERS.

In some notes on early Potatoes in *THE GARDEN* reference was made to the old, but good, Gloucestershire Kidney. For many years I grew this variety, but have discarded it of late years for heavier croppers. For years I grew the Ashleaf section for first crop in the open, but a failure caused me to try the early Puritan type. Much depends upon the wants of the grower. In a late, cold, dry spring the Ashleaf kinds cannot be termed heavy croppers. To lift a bushel or two of tubers daily as early in the season as possible, it is desirable to have good croppers. When in Devon, Alma was my favourite early variety. This in shape is not unlike Sharpe's Victor, but more kidney-shaped. No variety I have ever grown has been of better quality, but of late years on a light soil the crop has been poor, and I have been obliged to discard it. The same remarks apply to Sharpe's Victor, a fine forcing Potato, but in a light soil in the open borders the crop during three or four dry seasons failed. Sharpe's Victor from the first was a great favourite on account of its earliness and good shape. For frame or pot culture its small top makes it most suitable. The Ashleafs when cooked do not lack flavour, and this will atone for loss of crop when large quantities are not needed early in the season. Veitch's Ashleaf is a good type. This with me makes less top than the Hammersmith, but the latter is still one of the best in cultivation. Myatt's is likewise a grand Potato, the tubers being larger than in either of those named, but it is so subject to disease that I have been obliged to discard it. For earliness, so far none has surpassed Ninety-fold. Last June this was the best Potato both in crop and quality. I consider this new variety a splendid acquisition in every way, and its table quality is so pronounced, it will, I am sure, become a general favourite. For some years Harbinger was my earliest Potato, then Ringleader took its place, and I am inclined to think Ninety-fold will surpass Ringleader. Still, seasons vary, and I am not inclined to give up Ringleader. I still grow Ringleader in frames, but this season am giving the newer one a place by its side to test earliness. For quality and crop English Beauty is a general favourite. This I plant on open borders, whilst those noted above have a more sheltered position. English Beauty is the result of crossing Myatt's with Beauty of

Hebron. Its only fault is that unless lifted early it is somewhat subject to disease. For quality I have never had a better Potato than Sutton's A1, but in a dry soil it does not crop so freely as Ninety-fold. Sutton's A1, a round tuber, or nearly so, is one of the earliest of all, and boils dry. There are none that crop so well as the American kinds, of which Early Puritan is the type, but in wet seasons the tubers are liable to disease. S. H. B.

Winter-sown Onions.—"A. D.'s" note on the advantages of sowing Onions in January under glass and transplanting to the open garden when large enough is well worth notice. On shallow, hot soils especially, this plan should be practised. A friend of mine having such a medium to deal with tried sowing early in the year in boxes and transplanting in April. Previous to this his Onions had always been much thinned and sometimes spoilt by the maggot. The transplanted bulbs, however, escaped and grew away freely, making fine solid, good-keeping specimens. After that he always grew his Onions in that way. At first the labour may appear great, but in reality it is less than that incurred by the usual way of sowing in the open and thinning out, and loss and disappointment are saved.—N.

—Onions and their cultivation constitute just now perhaps a somewhat stale subject, but the present moment is all the same one of interest to all those growers of these bulbs, and they are now legion, who sow seed under glass in midwinter to secure fine plants to put out in the spring for the production of big bulbs. Sowings are usually made in shallow pans, well drained, in light and sandy soil, having in it a good proportion of fine leaf-mould. In this material the seeds, just buried and the pans stood in a temperature of from 55° to 60°, germinate soon, and if the pans be then placed near the glass, growth is also very sturdy. When stood too far from the glass the seedlings are apt to draw, then fall over, and in such condition fail to make strong plants later. When the little plants are about 3 inches in height, they should be carefully lifted from the seed-pans and be pricked out 2 inches apart into other pans or shallow boxes, the soil now including two parts turfy loam, as greater root-fibre is thus induced to form. After going through a process of hardening by exposure to more air in a cold frame, transplanting, by lifting each plant with a small ball of soil and roots with the aid of a trowel, should take place towards the end of April. After-results will then depend on the way the ground has been prepared and the culture.—A. D.

Pea Duke of Albany.—To me this has always been a very disappointing Pea, though my experience of it has been obtained in gardens in Hants, Somerset, and Wilts. It produces very fine pods, in fact I know of no other that can excel it in this respect; but this avails but little when the lightness of the crop is taken into account. It is very subject to mildew, and a spell of hot summer weather arrests its growth, seriously reduces the crop, and causes half-filled and deformed pods quite out of proportion to what is expected. In some soils I have on some few occasions seen perfect crops of the variety, but I have never been fortunate enough to succeed with it, and do not now depend on it. There are certain soils that suit it, no doubt, for I observe it is frequently referred to by many growers who have recorded their experience of late in *THE GARDEN*. The Duchess, which has been claimed as an improvement, has not proved in any way superior to Duke of Albany in my case, and has shared the same fate. Had I the convenience and time to deeply trench the ground for Peas possibly a different verdict might be given, but as this is impossible, varieties of stronger constitution are chosen.—W. S.

Seakale.—That it is possible to have good blanched Seakale early in the winter was evidenced at a show held at Twickenham on No-

vember 15 last, when Mr. W. Poupart, one of our greatest market growers of this vegetable, staged a bundle in first-rate condition. How he succeeded in getting crowns to ripen off so early as October I do not know, but then he habitually has Seakale so early as this date and in considerable quantity. Several years since Mr. Poupart mentioned that he forced annually the product of sixteen acres of roots—an enormous quantity, rendering it needful to start early in the winter. The forcing is done in brick pits having hot-water pipes running through them. These pits do not rise above the ground-line, and when filled are covered up with boards and a thick coating of long litter. With reference to the point raised by "W. S." with respect to the difficulty in getting crowns to mature their leafage sufficiently early, especially during such a season as the past, I should like to ask what effect in promoting early maturation is produced by early winter planting? No doubt it is the rule to collect root cuttings during the winter, lay them in thickly, when they callus over top and bottom, and then plant in the spring. That some must be so treated is inevitable, unless every mature root be trenched out, trimmed, and laid in in November. Then the root cuttings may be planted at once. I am not in a position to say whether the effect of earlier planting would be to promote earlier leafing and autumn ripening or not.—A. D.

OXALIS CRENATA AS A VEGETABLE.

As attention has once more been drawn to this interesting and beautiful flowered Peruvian plant by a basketful of its edible tubers being sent to the fruit committee of the Royal Horticultural Society at its last meeting at the Drill Hall on Tuesday, the 13th inst., by Mr. C. Herrin, of Dropmore, it may interest some of your readers to whom the plant as a useful table vegetable is new and unknown to hear what one of the great authorities on English horticulture, Mr. Sweet, says about it in the second volume of the second series of his beautifully illustrated work, "The British Flower Garden," published in 1833. After a charming picture of a bunch of its beautiful deep yellow flowers, which are prettily and distinctly veined with purple lines radiating from the centre, and exceedingly ornamental, he writes on p. 126 as follows: "This plant is remarkable for the singular enlargement of its subterranean stems which closely resemble the tubers of the Potato. [This is hardly true now, as from woodcuts in Nicholson's "Dictionary of Gardening" and description in *THE GARDEN*, they much more closely resemble the tubers of *Tropæolum tuberosum*.] It appears to be what is termed a progressive annual. The flowering stems die annually, root and all, when the tubers are found entirely separated with a portion of the filiform attachment adhering to them. By these the plant usually appears to increase itself, for it rarely if ever perfects seeds—at least in this country, the colder climate of which may favour the production of tubers. The tubers are produced in considerable plenty, and are often 2 inches long by 1 inch in diameter. When raw they are slightly sub-acid, but on being boiled they entirely lose this flavour and taste very much like the Potato, for which they might form occasionally an agreeable substitute at the tables of the curious. It is a native of Peru, and is cultivated largely in the gardens about Lima as a salad, for which purpose its succulent stems and acid flavour seem strongly to recommend it. It grows freely in the open border and is readily increased by cuttings as well as by the tubers, which require to be taken up and treated as Potatoes." It is curious that Jacquuin, though he mentions this species in his "Oxalidum Monographia," and devotes an entire page to its description, does not figure it.

W. E. GUMBLETON.

Late ripening of Seakale.—Gardeners in the midland and northern counties will probably

not be so far behind their southern brethren this winter with their first batches of forced Seakale. As a rule, my breadth of yearling roots in South Notts was quite a fortnight later in shedding its foliage than similar lots nearer London, and, as "W. S." asserts, it is a loss rather than a gain to lift and subject to warmth crowns from which the leaves have to be cut off. Unless a strong heat is given they remain inactive for weeks, and applying strong heat generally means stunted growth with poor flavour. When pushed for time, I have sometimes placed some half-dozen crowns in pots, covering them with other pots, standing them on boards over hot-water pipes in a Pine stove. Although time has been gained, quality has been lost, unless in the case of extra large, well-ripened crowns.—J. C.

Endive, Fraser's Broad-leaved.—In looking through the kitchen garden calendars I have never seen the above variety of Endive mentioned. I wonder at this, as without doubt it is one of the most reliable and best of the broad-leaved section and of delicate crisp flavour. It is now many years since its introduction, but I still prefer it to all others. In trying winters it is not so easily injured by damp and frost and keeps in the frames or pits late in the spring without running to seed. Some varieties need removal to a dark structure, such as the Mushroom house, to blanch during the dull, dark days of December, as if covered with mats in the pits the centres are apt to partially decay. Fraser's, however, stands this very well; in fact, its suitability for rough-and-ready treatment generally is one of its chief recommendations.—J. CRAWFORD.

Thinning out Seakale.—Good cuttings, after callusing is completed, will form as many as eight or nine shoots, and it has been my practice to rub off half of these at planting time, further reducing the number to the three stoutest as soon as growth has far enough advanced to distinguish them. Some growers who know the value of extra strong crowns leave only one growth on, and this is quite justifiable where there is ground enough at command for the accommodation of perhaps several thousand roots; but where the most has to be made of the ground, gardeners cannot afford to disbud thus rigidly. In some places where only a small bed of permanent roots is forced it is still done by means of pots and leaves, and in the case of limited quantities there is no advantage in dissuading growers from this method of forcing, as by no other means can such crisp, well-flavoured Kale be secured. Amateurs, however, need reminding of the necessity of summer thinning of the crowns.—NORWICH.

Extra early Cauliflowers.—"S. H. B." has a good word for Mont Blanc Cauliflower, and recommends it for planting for early cutting. If by planting this variety in handlights in October, or even in March, after protecting in frames through the winter, useful heads may be had by the end of May, it will certainly be an acquisition, for, as "S. H. B." remarks, Cauliflowers are none too plentiful at that date, and that once reliable variety Early London is, according to my experience, very uncertain nowadays. I am rather surprised that "S. H. B." does not name Early Snowball, as I think that, given a true stock, it is still a grand Cauliflower for early cutting, the heads being of a nice size and colour for the dining room. It was much in request at one time, and I expect, owing to this fact, the strain deteriorated and is now seldom obtained true. With me in a light soil the small forcing sorts always buttoned badly, for which reason I discarded them.—NORWICH.

Pea Ne Plus Ultra.—The notes on Peas which appeared in THE GARDEN from all parts of the British Islands were interesting and instructive, because from them might be gathered the different methods adopted for keeping up a supply of this important vegetable over a long period. I read the notes as they appeared week by week, and one thing that struck me as being worthy of remark was the general popularity of a few well-tried varieties,

and amongst them the old favourite Ne Plus Ultra. It is needless to describe it, as it is so well known, and the fact that it is grown and spoken well of by a large percentage of those who have assisted in compiling the notes is evidence that it is one of the best main-crop Peas in cultivation. The instances in which Ne Plus Ultra is not mentioned are few, and when we come to consider that the reports come from all localities, comprising marked differences of soil and situation, we realise how accommodating this old sort is. In spite of the contention that varieties of vegetables deteriorate, and in spite of the fact that recent years have seen the introduction of many good sorts, Ne Plus Ultra holds its own, and from the evidence of a large number of practical gardeners, the inference may be drawn that this old favourite is amongst the most popular Peas at the present day. Perhaps one of the greatest points in its favour all along is the way in which it keeps up its true character. Now and then one sees inferior forms of it, but considering the generality of its cultivation, Ne Plus Ultra shows very little deterioration. Another fact is evident from the notes on Peas, namely, that quality always lasts. There have been numerous varieties of Peas introduced which are not mentioned, but those possessing good all-round qualities need only to be grown to make a lasting reputation.—G. H. H.

WINTER SPINACH IN DRY SEASONS.

SPINACH, and especially autumn-sown, is more easily affected than many crops both by lack and excess of moisture. Many gardeners having a heavy, retentive soil to deal with know the liability there is of winter breadths becoming affected and even ruined by the yellows in wet seasons, even when the ground is quite free from wireworm. Beds which up to a certain time the gardener has had reason to be proud of suddenly go off without the slightest warning. On the other hand, to sow winter Spinach in parched ground is to court failure, as the seed germinates slowly and weakly, a patchy plant only is secured, and the plants never seem to strengthen satisfactorily even when rain does come. Position is a great thing in dry seasons, and I have seen excellent results from sowing on an east border. Here the plants grow hardy, and moisture being better retained than on open quarters the plants do not run to seed so early in spring. Where, however, open quarters are unavoidable, I prefer in autumns like the one just past to sow on a plot from which Tripoli Onions have been cleared, merely clearing off weeds and rubbish and drawing the drills a little deeper than usual. These should be filled with water twice over, allowing an interval of a couple of days, after which the seed should be sown rather thickly, and after the drills have been filled in, a liberal quantity of old Mushroom manure sprinkled over them and a gentle watering given with a rosed watering-pot. This will cause the seed to germinate and support the young roots until rain comes. The surface can then be pricked over for neatness sake, when, if thinning the seedlings is not too hurriedly or too rigidly performed, a good crop of Spinach may be looked for. That a warm, sheltered south border is not the best position for winter Spinach I have more than once proved, the plants sooner suffering from inclement weather than when growing in more open, exposed positions, being in the latter more hardy. My experience is that the summer Spinach is equally as hardy as the prickly or so-called winter variety, and I have found it a good plan to sow a breadth of each, as sometimes one does better than the other. Fish manure or guano is excellent for Spinach.

J. CRAWFORD.

Kohl Rabi.—In a hot, dry summer this vegetable proves most serviceable. I admit as regards quality one cannot compare Kohl Rabi with a well-grown Model or Snowball Turnip, but in hot, dry summers Turnips are none too plen-

tiful, and Kohl Rabi in my opinion is far superior to a poor Turnip. When served at table mashed in the same way as Turnips, Kohl Rabi is a palatable vegetable, and the roots have a peculiar sweet flavour. Seed sown in April and May in drills 15 inches to 18 inches apart will give good dishes through June till August. This plant does well in poor, dry soils.—S. M.

Pickling Cabbage.—It is usual to sow the varieties of pickling Cabbages in July or August and to plant them out with the ordinary cooking sorts in autumn. On good ground they often grow to a gigantic size, and if not cut early are liable to split. As a rule they are not asked for for pickling until a few frosts have occurred, being then considered in better condition. I have seen a whole row spoilt by splitting. A few years since I sowed the red sort in a Carrot frame in February, and although the heads did not attain the size autumn-sown ones did, none of them split. Since then I have been in favour of spring sowing. There are now various sorts of pickling Cabbages, but perhaps none better than the old Red Dutch.—B. S. N.

Early forcing Turnip White Gem.—This is one of the best for frames. Last season it was grown alongside Early Milan, and though not earlier than this, it is, in my opinion, of better quality. In this latter respect it more resembles Early Snowball, one of the best early Turnips for the open ground. The newer variety is oblong in shape and has pure white, particularly sweet flesh. Sown early in January it will give handsome roots in April. For first crop in the open White Gem is specially suitable, as it matures so quickly. In heavy land this variety will be valuable, as it does not run so quickly as the flatter-rooted varieties. In dry seasons I have noticed the flavour of this kind of root is always superior to that of the flat-rooted kinds.—G. WYTHES.

Parsley in winter.—In gardens where sufficient rainfall enabled midsummer-sown batches to make headway, Parsley will, owing to the mild weather at present prevailing, be plentiful and good. Gardeners, however, must not be caught napping, or with a sudden visit of sharp weather the supply may speedily dwindle. It is not snow that injures it, as, provided there is a sufficient depth to cover the leaves and crowns, it acts as a protector rather than otherwise, but keen, frosty winds soon cause it to droop and become discoloured. Where pit room is plentiful it is a capital plan to sow a few lights at the end of June or early in July for winter use, this plan being even better than lifting from the open and transplanting under glass. Where, however, the latter course has to be adopted, transplanted roots are best for the purpose, as they have not such long tap roots and consequently lift better. It being next to impossible to have too much Parsley in winter and spring, open-air rows should be arched over with rods so that protection can be given.—B. S.

Mercury as a vegetable.—This will grow where Spinach fails. In Lincolnshire and the surrounding counties Mercury is found in most gardens, and is valued on account of its hardness. The plant when once established lasts for many years, but much better results are secured if the roots are divided up every three years and given new quarters and good culture. Seeds should be sown early in April in rows 15 inches apart, allowing about half that distance between each plant in the row when thinned. The following spring, as early as possible, it will be advisable to give more space by lifting every other plant in the row and making a fresh bed. The young shoots early in the spring make a good vegetable if cut like Asparagus. When grown for this purpose the plants may be covered with a good thickness of old leaf-soil or spent manure in the winter. The shoots are then blanched and cut in a young state. It is not well to cut too hard the first season. I have found it advisable to have two or three beds, so as not to cut one lot too severely at one time.—S. H. B.

THE ORCHARD BEAUTIFUL.

THE spirit of beauty must have been at the birth of the trees that give us the hardy fruits of the northern world—Crab, wild Plum, Pear and Cherry—yielding back for us in their bloom the colour of the clouds, and lovelier far in their flowers than Fig or Vine of the south. The old way of having an orchard near the house was a good one. Planted for use, it was precious for its beauty, and not only when the spring winds bore the breath of the blossoms of Cherry, Plum, Apple, and Pear, as there were the fruit odours, too, and the early Daffodils and Snowdrops, and overhead the lovely trees that bear our

be looked for of an orchard in which the beauty of all our hardy fruit trees would be visible? If we consider the number of distinct species of fruit trees and the many varieties of each, we may get some idea of the pictures one might have in an orchard, beginning with the bloom of the Sloe and Bullace in the fence. The various Plums and Damsons are beautiful in bloom, as in the Thames valley and about Evesham. The Apple varies much in bloom, as may be seen in Kentish and Normandy orchards, where the flowers of some are of extraordinary beauty. The Pear, less showy in colour, the Medlar, so beautiful in flower and in foliage, and the

main, Beauty of Kent, Blenheim, Cellini, Emperor Alexander, Flower of Kent, Golden Noble, Hawthornden, Kentish Fillbasket, Reinette du Canada, Warner's King, and Yellow Ingestre. Some Apples, too, bloom very late, this being the case more particularly with some of the cider Apples both of England and France, which bloom in June in Sussex; but any Apple grown for its fruit is sure to be worth having for its beauty.

POOR SOIL SHOULD NOT HINDER.—In the planting of the orchard beautiful some may be deterred by the idea that the soil is too poor, and no doubt it is a much simpler matter on the good fruit tree soils of Devon,

Hereford and Kent than in other districts; but the difference in soils is no reason why some counties and districts should be bare of orchards, and in many the soil is as good as need be. Indeed, in the country south of London, as in Kent, where much of the land is taken up with orchards, we may notice the trees suffering much more from drought in dry years than they do in the good sandstone soil of Cheshire or in Ireland and Scotland, where there is a heavier rainfall. Few of our orchard trees require a very special soil, and where chalky or very warm soil occurs, the best way is to keep to the kinds of fruit it favours most. However poor the soil, there are certain fruit trees that will do well on it if we take care to preserve them from drought. But though the orchard beautiful must be of trees in all their natural vigour, and of forms lovely in winter as in spring and summer, the trees must not be neglected, allowed to perish from drought, or become decayed from



In a Devonshire orchard.

orchard fruits—Apples, Pears, Cherries, Plums, Medlars, Damsons, Bullaces, and Quinces. To make pictures to last round the year, I should ask for many of these orchard trees on a few acres of fair ground, none the worse if too hilly for the plough; a belt of Hollies, Yew, and Scotch Fir on the cold sides to comfort trees and men; with careless garlands of Honeysuckle, Rose, and fragrant Clematis among them here and there, and in the fence bank plenty of Sweet Brier and Hawthorn. If we see fine effects where orchards are poorly planted with one kind of tree, as the Apple (in many country places in our islands there are no orchards worthy the name), what might not

Quince, so pretty in bloom in Tulip time, must not be forgotten. The Cherry is often a beautiful tree in its cultivated as well as wild forms, and the Cherry orchards in parts of Kent, as near Sittingbourne, are pictures when in bloom. There is no better work in a country place than choosing a piece of good ground to form an orchard; and, considering the number of trees that are worth a place for their beauty as well as their fruit, a dozen acres are not too much in a country place where there is land to spare.

The bloom of all our fruit trees of native origin is beautiful, and even among these we find variety, and among the most beautiful Apples as regards blossom are Adams' Pear-

bug, scale or other pests, and it should be the pleasant care of those who enjoy their beauty to protect them from all such dangers. The idea that certain counties only are suited for fruit growing is erroneous, and even if it were true, the fact need not deter us from planting orchards of the hardier trees and of good local kinds. Much of Ireland is as bare of orchards as the back of a stranded whale, but who could say this was the fault of the country? Mr. Burbidge has so lately told us of the fine Cherry orchard near Bray, that I need not give other instances.

THE TREES TO TAKE THEIR NATURAL FORMS.—Where we plant for beauty we can have no choice for any but the natural form of the

tree. Owing to the use of what are called dwarfing stocks and like contrivances, fruit gardens and orchards are now beginning to show shapes of trees that are not beautiful compared with the grand old orchard tree. However much these dwarf and bee-hive shapes may appeal to the gardener in his own domain, in the orchard beautiful they should have no place. For the form of all our fruit trees is very good indeed, winter or summer, and that is a great point if we seek beauty. We know what the effect of flower-time is in the pictures of such painters as Mark Fisher and Alfred Parsons, if we have not taken the trouble to see the finer pictures of the orchards themselves, seen best, perhaps, on dark and wet days in flower-time. Lastly, the effect of finely-coloured fruit on high trees is one of the best in our gardens. Therefore, in every case, whatever pruning we do, let the tree take its natural form, not only for its own sake or the greater beauty of natural form generally, but also for the variety of form we get even between the varieties of trees of the same species.

Clearly if we prune to any one ideal type of tree we can never see the interesting variety of form shown by the varieties of one species, as the Apple and Pear. Keeping to the natural form of each tree, moreover, does not in the least prevent thinning of the branches where overcrowded—the best way of pruning.

CIDER ORCHARDS are often very picturesque in the west of England and in Normandy, and so long as men think any kind of fermented stuff good enough for their blood, cider has on northern men the first claim from the beauty of the trees in flower and fruit, and indeed throughout the year. The cider orchard also will allow us to grow naturally-grown trees and those raised from seed. Even in countries where they do not grow fruit for its own sake, we may see very beautiful effects from the trees in cider orchards. These cider orchards are extremely beautiful, and the trees in them often take fine natural forms. They have a charm, too, in the brightness of the fruit, and also a peculiar one in the lateness of the blooms of some, many of the cider Apples flowering later than the orchard Apples. In some cider orchards near Rouen (Lyons-la-Forêt) I saw the finest, tallest, and cleanest trees were raised from seed. The owner, a very successful cider grower, told me they were his best trees, and raised from seed of good cider Apples. If he found on their fruiting that they were what he wanted as cider Apples he kept them and was glad of them; if not, he cut their heads off and regrafted them. These were free and handsome trees with good grass below them, just like the Cherry orchards in the best parts of Kent, where the lambs pick the early grass. But however beautiful such an orchard, clearly it will not give us the variety of form and beauty found in the mixed orchard, in which Cherry, Apple, Plum, Pear, Medlar, Quince, Walnut, Hazel and Mulberry take a place; there also the various interesting trees allied to our fruit trees might

come in, such as the true and common Service tree, Almond, Cornelian Cherry, Hickory, and Crab.

GRAFTING.—Where we make use of grafted trees—and generally there is no choice in the matter—we should always in the orchard use the most natural stock that can be obtained. It is much better, for instance, to graft Pear trees on the wild Pear than on the Quince, a union harmful to the Pear on many soils. If we could get the trees on their own roots without any grafting it would often be much better, but we are slaves to the routine of the trade, and anyone who asks for a fruit tree on its natural roots is regarded as a wandering lunatic. The history of grafting is as old as the oldest civilisations—its best reason, the rapid increase of a given variety. In every country one or two fruit trees predominate, and are usually natives of the country, like the Apple in Northern Europe and the Olive in the south. When men found a good variety of a native fruit they sought to increase it in the quickest way, and so having learned the art of grafting, they put the best varieties on wild stems in hedgerows, or dug up young trees and grafted them in their gardens. The practice eventually became stereotyped into the production of the nursery practice of grafting many varieties of fruit trees on the same stock, often without the least regard to the lasting health and duration of the tree so grafted. In some cases when we use the wild form of the tree as a stock we succeed; but grafting is the cause of a great deal of the disease and barrenness of our orchards and fruit gardens, and we should advise everybody to get out of it a little if they can. It is now possible to get some Apple trees on their own roots, and in France, and here and there in England also, some kinds of Plums in that way. Where we graft, it is important to graft low; that is to say, in the case of cider Apples, for example, it is much safer and better to take a tree grafted close to the ground than grafted high up, as is commonly practised, as the high graft is liable to accident and does not make so fine a tree. In the orchard the good old practice of sowing the stone or pip of a fine fruit now and then may also be followed with interest.

STARVED ORCHARDS.—Even in the good fruit counties like Kent one may often see in any year orchards starved from want of water, and the turf beneath almost brown as the desert. Where manure is plentiful it is well to use it as a mulch for such trees, but where it is not, we may employ various other materials for keeping the roots safe from the effects of drought. Not only the tree roots want the water, but the roots of the competing grass suck the moisture out of the soil. The competition of the grass could be put an end to at once and the trees very much nourished by the use of an easily found mulching from materials which are often abundant in a country place. Among the best of these, where plentiful, is the common Furze, if cut down in spring and placed over the ground round the base of

young or poor orchard trees. It prevents the grass from robbing the trees and lets the water fall through to the ground, helping to keep it there, too, by preventing direct evaporation; moreover, the small leaves falling off nourish the ground. So again the sweepings of drives and of farm or garden yards are useful, and also any small faggots—often allowed to rot in the woods after the underwood is cleared. They fetch such a low price that they are not worth selling, but if placed round the roots of fruit trees they often do good. Then also there are the weeds and refuse of gardens of all kinds which form detestable rubbish heaps that would be much better abolished, and all cleanings from the garden placed directly over the roots of poor orchard trees. There is so often an orchard near the garden, that this would generally be a handy way of getting rid of green rubbish, and if spread for a few feet on all sides about a tree would not only keep the grass in check, but the decay of such spare stuff year by year would promote healthy growth and good crops.

Even rank weeds, which swarm about yards and shrubberies, would help, and one of the best ways to weaken them and help towards their destruction is by mowing them down in the pride of their growth in the middle of summer—nettles and docks, as the case may be—and instead of burning them or taking them to the rubbish heap, use them over the tree roots. Even the weeds and long grass growing round the base of the trees, if mown and left on the ground, will make a difference in the growth and health of fruit trees. Such care is all the more needed if our orchard is upon poor or shaly soils in the southern or home counties where the rainfall is less than in the western counties or in Ireland or Scotland: in naturally rich and deep soil we do not need it.

FENCING THE ORCHARD BEAUTIFUL.—All fences should be of living things at once the most enduring, effective, and in the end the best. We see the hideous result of the ironmonger's fence in marring the foregrounds of many landscape pictures. Holly, Quick, or Cockspur Thorn, with a sprinkling of Sloe or Bullace here and there, give us the best orchard fence; once well made, far easier to keep up than the iron fence. Yew is a danger, and a Yew hedge should never be planted where animals come near, as they usually do, the orchard, and if the Yew comes by itself, as it often will, it should be cut clean out and burnt as soon as cut down. Holly is the best evergreen orchard fence for our country, and we should be careful about getting the plants direct from a good nursery—clean seedling plants not much over a yard high. The best time to plant Hollies is in May if growing in the place, but on light soil plant in autumn; all the more need to do this if we bring the plants by rail. Unless the soil is very light I should plant on a bank, because a turf bank is itself such a good fence to begin with, and a free Holly hedge on a good bank, with, perhaps, a Sloe here and

there through it, is one of the prettiest sights of the land, and forms the best of shelters for an orchard in our country. Where shelter is much sought the hedge should not be clipped, and is much handsomer so grown. The orchard fence should not be cut in every year to a hard line, but Sloe, and May, and Sweet Brier, and wild Rose left to bloom and berry, the hedge to be a shelter as well as a fence, and not trimmed oftener than every ten years or so. Then it should be cut down and woven together in the strong way seen in parts of Kent on the hills.

VARIETIES OR KINDS TO PLANT.—The English fruit garden is often a museum of varieties, many of them worthless and not even known to its owner. This is wrong in the garden, and doubly so in the orchard, where the fruit trees should be trees in stature and none of poor quality. Too many varieties is partly the result of the seeking after new kinds in the nurseries. In orchard

fruit trees of Northern and Central Europe, and particularly Russia, would be well suited for our climate, but as yet little is known of these except that they are very interesting and many of them distinct. The vigour of the tree should be considered and its fertility. Kinds rarely fertile are not worth having, always bearing in mind, however, that a good kind is often spoiled by a bad stock or by conditions unsuited to it.

The beauty of flower of certain varieties may well influence in their choice. Once when talking with Mr. Ruskin of the beauty of the fruit as compared with the flower of our northern fruit trees he said: "Give me the flower and spare me the stomach-ache!" And many will sympathise with the view, which is also a consolation for the many who get no fruit from their trees.

THE ORCHARD WILD GARDEN.—One of the reasons for a good orchard from the point of view of all who care for beauty is its

sides of it Daffodils, Snowflakes, Snowdrops, wild Tulips, or any like bulbs to spare from the garden; and from the garden trimmings, too, tufts of Balm and Myrrh to live for ever among the grass of the bank. The robin would build in the Moss of the bank, the goldfinch in the silvery Lichen of the trees, and the thrush, near the winter's end, herald the buds with noble song.

STAKING ORCHARD TREES.—Fruit trees grown in any way are fair to see in the time of flower and fruit, but our beautiful orchard must be in turf if we are to have the best expression of its beauty. In fruit gardens where the whole surface is cultivated with small fruits below and taller trees overhead we may get as good, or, it may be, better, fruit, but we miss the finer light and shade and verdure of the orchard in turf, the pretty incidents of the ground, and the animal life among the trees in spring, as sheep in Kent, and the interest of the wild gardening in the grass. Also the orchard turf, by its shade or shelter, or in some way, becomes most welcome nibbling for lambs and calves in the spring. A gain of the orchard in turf is that we can put it on any ground, however, up a hill or down a dale, and in many parts of the country there is much ground of this sort to be planted. Now, while we may in the garden or the fruit garden plant trees without stakes, we cannot do so in the grass orchard, because of the continual incursions of animals; therefore staking is needed, not only to support the tall and strong young trees which we ought to plant, but also to guard against injuries by animals. The best way is to use very strong stakes and make them protect and support the trees and also carry the wire, which is essential wherever rabbits, hares, goats, or other browsing animals exist. The best way to do this is to have a very stout stake—Larch or old Oak. Sometimes in the *débris* of old sheds a number of rafters are turned out which are of no use for building, and are excellent for staking strong young trees in orchards, first digging the hole and putting the stake firmly in to a depth of 3 feet below the surface. Cradles of Oak and iron are much in use; the first is very well in an Oak country where labour is plentiful; iron is costly and ugly, and not so good as the single stout stake, which is easy to get of Larch or stub Oak in many country places. The common way of tying a faggot of sticks is not sufficient protection where animals have the run of the orchard. The trees should be tied with care with soft ropes of straw or other material, and when planted be loosely but carefully wired with netting well out of the reach of browsing animals. This wiring is supported well by the strong stake, and, well done, it keeps rabbits and hares, as well as cattle, at bay, and, worse than all for trees, young horses.—W. R.

Mr. S. W. Fitzherbert sends us the following description of a

DEVONSHIRE ORCHARD.

The lover of the beautiful in Nature who, at the season of Apple-blossom, has a little spare



An orchard near Glastonbury.

culture we should be chary of planting any new kind, and with the immense number of Apples grown in our own country already, it is always possible to select kinds of enduring fame, and it is the more necessary to do this now when good Apples are coming from America, where people do not plant a collection when they want a crop of a few first-rate kinds which they know will be precious in the market. So we should in our orchards never plant single trees, but always, if possible, having chosen a good kind, plant enough to make it worth gathering, noting and looking after it. It would be better here not to mention any particular kinds, because local kinds and local circumstances often deserve the first attention. Some local kinds of fruit are among the best. Any fruit requiring the protection of walls or in the least tender should never be put in the orchard. It is probable that some of the

value for wild gardening. It is so well fitted for this, that many times Narcissi and other bulbs from the garden have even established themselves in it, so that long years after the culture of flowers has been given up in the garden, owing to changes of fashion, people have been able in these orchards to find there naturalised some of the most beautiful kinds of Narcissi. Where the soil is cool and deep, these fine hardy bulbs are easily grown, and in warm soils many of our hardiest and most beautiful spring flowers might easily be naturalised. Those who care for beauty as much as fruit may throw careless garlands of the hardier Clematis, such as the Indian early and late-flowering Clematis, over the trees here and there. They do not rob the ground much and add a careless grace which is always welcome. On the cool side of the orchard bank Primrose and Oxlip would bloom long and well, and on all

time on his hands might do worse than spend a week amongst the orchard lands of South Devon, for it is not from the high roads, enchanting as are many of the views obtainable from them, that the sequestered valleys and secluded retreats, where rural loveliness reigns supreme, can be explored.

The old-time Devon orchards, though doubtless deserving but sparse commendation from an economic point of view, leave little to be desired in the way of picturesque effect. It may be said, with truth, that in the spring-tide of the year every orchard is a beautiful sight, but much depends upon the surroundings, and in this respect the orchards of Devon are highly favoured, for the conformation of the land is such as to augment their charms.

Down into the deep coombes dip the narrow, winding lanes, scarce wide enough to admit of two carts passing, except at the gateways. Here the banks are starred with Primroses and Violets, and as one nears the lower levels, the sound of running water is borne upward from the brook that meanders through the old orchards—orchards where the gnarled and Lichen-covered trunks stretch away in gracious vistas—carpeted with the lush green of the grass and canopied with the shell-pink of the Apple blossom—blossom “as tender in colouring and delicate in fragrance as the rarest exotic.” No dream of poet or painter has ever evolved a vision more exquisite than these suavely-tinted blooms clustering so thickly on the spreading branches. It is here that Bacon’s words recur most insistently to the mind—“The breath of flowers is far sweeter in the air, where it comes and goes like the warbling of music, than in the hand.” One has no thought of cutting even a single spray, with its rosettes of blossom, crimson in the unopened bud, pink in the cupped blooms and white in the maturer petals, little though its product would be missed at the autumnal harvesting. It is enough to gaze and to appreciate. Here the sward is golden with countless Buttercups; here spangled with the softer tints of the Lent Lilies and with pale Lady’s Smocks, that congregate most numerous by the verge of the murmuring stream, where, later in the year, the Meadow Sweets will lift their ivory-white plumes and load the summer air with perfume. Here and there some venerable patriarch, with trunk inclining considerably out of the perpendicular, leans heavily on an outstretched, Moss-grown arm whose interlacing branches sweep the very grass with a cascade of flower. One or two of the oldest trees have succumbed entirely to the stress of some infrequent storm, probably the disastrous blizzard of 1891, which wrought such havoc in the west country, though it is rarely that the gales preserve the fury of their onslaught through the many windings of the valley, and lie with prone boles, over which in the early days of the year the young lambkins leap, half hidden amid strong-growing herbage. There is a hush beneath the Apple-boughs—a sense of peace and aloofness from the world, that is intensified by the intermittent melody of bird voices—the cuckoo’s call, the bird that has “no sorrow in her song, no winter in her year,” whose note seems from earliest childhood to have been the vocal expression of Apple-blossom, so intimately have the two been associated in our minds; short trills of song from the goldfinch, whose nest is aloft among the flower-laden branches; occasional notes from thrush and black-bird, reminiscences of the dawn-chorus in which, as day was breaking, they sustained the leading rôles; the woodpecker’s laugh, as with undulating flight and scarlet crest aglow

he seeks the hollow trunk in which the circular entrance to his nest has been so laboriously hewed; the faint note of chiff-chaff from the hedge where, on swaying shoots, the earliest Dog Roses are expanding their petals; and the harsh cry of the jay, whose azure wing-band glances momentarily into sight beneath the tree, the lowest fork of which holds his root-lined nest. Now and again a swallow skims—a blue-black flash—adown the blossom-roofed aisles, or a sulphur butterfly flutters lazily and indeterminately to and fro over the sun-dappled grass, while in the air there is a drowsy hum of insect life, for the bees are busy on these bright mornings, possibly remembering the couplet, “a swarm of bees in May is worth a rick of hay.” One of these valley-orchards ascends the steep hillside almost to its crest, where with ruddy trunks and sombre foliage stand the tall Scotch Firs. Half-way up the slope one comes upon a spot where the face of the rock has been exposed, a disused quarry, over the verge of which hangs an Apple tree in full bloom, while a ruined shed hard by is smothered in the luxuriant growth of Ivy. From the high ground beneath the Firs the valley lies curving seawards, its prevailing tint being the pale pink of the Apple-blossom, though here and there a grass field alternates its restful colouring, or the red South Devon soil shows up, while a filmy thread of blue smoke floating skyward against the tender green of the Larches’ fresh leafage, one of the most delicate hues to be met with even in this spring world of clear colour, marks the site of some thatched cottage-homestead.

Strolling further down the lane one reaches more orchards, all delightfully picturesque, but each possessing its own individuality. In one, perhaps the most neglected of all, there are but few trees left, and those that remain are wreathed in Ivy and wild Clematis. The dew-sprinkled grass is thickly studded with the white star-flowers of the wild Garlic, beautiful indeed to look at, but emitting a most pungent smell when bruised. Here, in a deeper channel, the stream runs silently, but ever and anon a faint murmur is wafted up the valley, the distant voice of the heavy, overshot mill-wheel that ponderously revolves 100 yards below. Beyond the mill and the wheelwright’s roadside workshop, with its pent-house roof, the stream passes beneath a one-arched bridge, in the shadow of which the troutlets lie, and skirts yet another orchard, forming at one end a wide pool, around whose margin the house-martins are busily engaged in collecting mud for the building of their nests, while now and again a swallow with headlong sweep stirs with its wing the still surface of the pool into ever-widening rings that cause the reflections of the flower-clustered Apple boughs to waver tremulously in the watery mirror. Beautiful as are the orchards of this secluded valley, there lies another, at a distance of some miles, that might perhaps be considered even more favoured in its surroundings, since both land and sea combine to enhance its attractions. From the inland hills a short but steep-sided coombe runs downwards towards the shore, terminating at the water’s edge in abrupt cliffs some 40 feet in height, which on either side the cleft rise to a considerably loftier altitude. On the eastern ridge of the coombe a belt of Scotch Firs, beneath which stand large Horse Chestnuts, acts as a screen, while to the south-east a thick plantation between the orchard and the sea provides effectual shelter from the prevailing winds. In this sanctuary the Apple-blossom appears in the fairest setting, for here is the dark green of the Firs, the fresh emerald o

the great Chestnuts’ fan-leaves thickly set with white flower-spires, and, beyond, the sapphire of the sea, flecked here and there with brown-sailed fishing-boats, white-winged yachts, and on the far horizon the tall top-sails of some homeward-bound barque or lofty spars and dim smoke-trail of hull-down Atlantic liner.

Many a delightful picture is presented by these informal orchards—beautiful, differing merely in details of environment and accessories, and, though it must be admitted that it is at blossom-time, when the year is young, that they attain the zenith of their loveliness, yet what is more typical of autumnal affluence than the loaded branches bending beneath the weight of rosy fruit, when the yellow stubbles stand bare of the reaped corn, and what colour-scheme can the dark November days provide more brilliant than the wide-based pyramids of Apples glowing on the emerald-green of the grass with their mingled hues of crimson, orange, and saffron?

STOVE AND GREENHOUSE.

WINTER-FLOWERING CARNATIONS.

THERE is no lack of beautiful subjects to follow the Chrysanthemums, but in many places the number of these that are grown is altogether out of proportion to the house room, and other things have to be neglected to make way for them. Plants that can be grown on outside or in frames during the summer and housed in late autumn after the crops are removed from Melon and Cucumber houses are useful, and among these the winter-flowering Carnations stand high. There is not of course the beauty of colouring that we see later on in the summer-flowering border varieties, but their present popularity and the number of new and lovely kinds constantly appearing show they have obtained a hold. Their culture is not difficult, but constant care from the time the cuttings are inserted until the plants are in flower is required. The cuttings consist of the small stubby side shoots that are more or less freely produced according to the variety. It is difficult to get enough to perpetuate some kinds, while others produce abundance. To ensure rapid rooting and prevent damping, the earliest batches at least should be given a gentle bottom-heat with a rather close atmosphere overhead, such as is provided in propagating cases and the like. This being very liable to bring insects in its train, the cuttings ought first to be dipped in a fairly strong solution of tobacco juice, and before the case is filled, this and the glass must be thoroughly cleaned. A little clean cocoa-nut fibre or tan may be used to plunge the pots in; these may be 4 inches wide and contain three or four cuttings, using a light sandy compost. It is important that the warmth be kept steady, and as soon as the cuttings are rooted, take them out and stand in a similar temperature without the bottom-heat for a few days. Gradually admit a little more air to slightly harden them before potting the young plants singly, this taking place before the roots are too far advanced. Pot at first into 3-inch pots, and see that these are thoroughly cleaned. A couple of large pieces and a few small crocks, with a little rough peat fibre over, make an excellent drainage, the compost consisting of light turfy loam three parts, one part of half-decayed leaf-soil or peat and decayed cow manure. As the pots are small, this must be used in a rather fine condition, but when re-potting again becomes necessary, the same

material used in a rougher state will do well. In potting into the small size, just press the soil into position with the thumbs and a gentle tap on the potting bench. If this repotting can be carried out in the house where the plants have been growing it is all the better, as the cold air coming into contact with them at this early season is not advisable and often leads to an attack of aphid, the worst insect enemy. When again established, begin to harden the plants a little preparatory to their removal to a light, well-glazed pit, when if necessary a little warmth may be turned on. By this time the season will be advancing and the sun gaining power, so heat will be very seldom needed.

It is now that the greatest care is necessary. The plants have to be inured to the altered conditions, yet no check must be given, and careful ventilation of the pit must be practised. Should there be the least sign of greenfly—and fortunate indeed will the grower be if this insect does not appear—the pit must be gently fumigated two or three nights in succession. If kept clean and not checked, the little plants will soon take on quite a robust look, and then they are sure to do well with ordinary precautions. No stated time can be given for the next shift, as, no matter how carefully they are grown, they will not all be ready at once; nor is it advisable to pot them all at once, as a longer succession of bloom is kept up when they are placed into the flowering pots at intervals. It is no use repotting until there are roots enough showing on the outside of the compost—when turned out for examination—to ensure their taking a good hold of the new compost. Pot rather firmly this time, as this conduces to a solid rather than a rapid growth, and once again established the plants may have full exposure by day, except in heavy rains, and a liberal amount of air left on at night. Watering from the first is an important item, and more plants are killed by injudicious use of water than by any other mistake in culture. There are many good fertilisers now advertised, and any of these, if used with proper caution, is very beneficial after the pots are thoroughly well filled with roots. As soon as the houses can be spared in autumn, the plants may go inside, the stages, roof, and walls having been first thoroughly cleaned. Light span-roofed structures are best for them, and these, as long as there is no danger from frost, may be left quite open by day and night. From this time onwards a minimum temperature of 50° and a maximum of 60° is ample, and if the house remains at this there is no need of fire-heat, excepting in wet weather to dispel superabundant moisture. Frequent and light fumigations will be necessary right on until the flowers commence to open. A little thinning of the flowers will be necessary, and if grown specially for cutting, the sooner they are removed after fully expanded the better. These few details carefully carried out will enable anyone to grow these beautiful flowers and keep up a good succession over several of the duller months in the year. GROWER.

Varieties of *Impatiens Sultani*.—This *Impatiens*, which was so popular some sixteen or seventeen years ago, still remains a general favourite, and deservedly so, for its brightly-coloured blossoms may be had more or less continuously throughout the year. Besides the ordinary form there are some distinct varieties, and a charming feature they make just now in the stove. One of these—*carminæa*—has blossoms of a bright carmine-red shade, while the distinct salmon hue of *salmonæa* is very pleasing. There is also a variety with variegated foliage, but it is

seldom satisfactory. These forms of *Impatiens* are so readily propagated by means of cuttings and of such easy culture, that no fear need be entertained as to their success. There are many other desirable stove species of *Balsam*, but they do not contain such an every-day plant as *I. Sultani*. The brilliantly-coloured *I. Hawkeri* is occasionally seen in good condition, but not often, while *I. Hookeriana*, a native of Ceylon, that usually blooms about midwinter, would doubtless be much more extensively grown but for the fact that it seldom flowers in a satisfactory manner. In this the large white flowers are marked on the lower portion with blood-red streaks—a startling contrast. *Impatiens auricoma*, which was introduced and much talked about a few years ago, appears to be of little value.—T.

DIEFFENBACHIAS.

AMONG stove plants with variegated foliage these form a distinct contrast to most other subjects, and although not quite so useful as many others, a few of the best sorts should be grown, for in addition to being very distinct, they are most effective when well grown. It is only when grown on freely from young stock that they are seen at their best. After plants get a certain age they deteriorate, the foliage being smaller and the plants leggy and unsightly. There is little difficulty in propagating. The tops will usually root if taken off to where the stem is fairly firm. They are inclined to bleed, but to stop this they may be put in quite dry sand and left for a short time, and after putting them into pots they should not have sufficient water to penetrate to the base of the cuttings for a day or so, giving only a slight sprinkling overhead and keeping close in the propagating pit. Very strong cuttings are apt to rot at the base, but if the tops do fail the old stems will give a lot of young stock, either kept in the pots and the tops taken off as they are ready, or they may be shaken out and the stems laid down in cocoa-nut fibre refuse or other suitable material. If the stems are firm they may be cut into short lengths, but if soft and fleshy they are liable to rot. It is not necessary to put them into the close pit; any warm place will do. As soon as young plants are established they should be potted in a compost of loam, leaf-mould, peat, with some manure and plenty of sand. After they have made a good start, liquid manure may be used freely. They like plenty of moisture at the root. In a moist atmosphere they may be grown fully exposed to the sun throughout the summer.

Of varieties, *Bausei* is one of the most popular. It is very distinct, and makes a well-furnished plant. *Magnifica*, with large deep green leaves, distinctly blotched with white, is one of the most robust. *Regina* has deep olive-green leaves with yellowish blotches, and *Jenmanni* has narrow leaves with white markings. *Shuttleworthi* has pale green leaves with a grey feather-like marking radiating from the midrib. *D. eburnea* is another distinct variety with narrow leaves, spotted with white, and a reddish brown leaf-stalk. There are no doubt others equally worthy of culture, but the above are a selection I made some years ago, and have found them very serviceable. If propagated periodically and well treated, there is little difficulty in having dwarf, well-furnished plants with large well-marked foliage. The juice is very poisonous, and care should be taken when using the knife not to allow it to touch any cuts or sores. H.

Begonia Dregei.—That extremely popular variety of *Begonia*, *Gloire de Lorraine*, was shown by several different exhibitors at the Aquarium on December 6. In Mr. Cannell's group there were two or three plants of *Begonia Dregei*, which is one of the parents of *Gloire de Lorraine* (*B. socotrana* being the other), and the little white blossoms of the older species, combined with the profusion in which they are borne, afforded a pleasing variety to the masses of rich pink furnished by the other. *B. Dregei* forms a

stout fleshy root-stock, from whence are pushed up stems of a succulent character that reach a height of 18 inches or thereabouts. The leaves are rather small, thin in texture, and freckled irregularly with grey, while the small white flowers are very numerous. It is a native of the Cape of Good Hope, from whence it was introduced in 1840. If taken in hand and grown as Mr. May, of Edmonton, grows *Gloire de Lorraine*, this original species would doubtless attract a good deal of attention. Apart from its own intrinsic value, *B. Dregei* has proved of considerable service to the hybridist, as besides the part it played in the production of *Gloire de Lorraine* (above alluded to), it was in conjunction with *B. Sutherlandi* employed by the late Colonel Trevor Clarke, the result being *B. weltoniensis*, which was raised about thirty years ago and for a long time was very popular.—H. P.

ROSE GARDEN.

INDOOR ROSES.

FORCING Roses very early in the season requires a lot of care and skill, specially prepared plants and constant watchfulness—more than the average busy gardener can give. It is, in fact, almost a speciality of the market men who cater for the demand through the earliest months of the year. But to bring Roses on gently so that abundance of bloom can be produced long before the outdoor flowers appear is not difficult, and the veriest tyro in gardening may take this mode up with every prospect of success. There is no difficulty in getting a supply of flower from the end of March onwards either in houses where the plants are brought in from the open or in a Rose house proper, where *Maréchal Niel* or some other climbing kind is thinly trained over part of the roof and the beds or borders inside the house filled with different kinds of *Teas* and Hybrid Perpetuals. In making a Rose border it is much better to do the work thoroughly at first, though there are many places where a good natural soil exists and little trouble is needed. But because Roses thrive well in the open it does not always follow that the soil will be good enough without any other aid when it comes to growth indoors. In the first place, the fact of its being under glass prevents natural fertility to some extent; again, the plants will probably have to stand more thickly on the ground, and Roses under glass flower over a longer season and make more wood than they do outside. Whenever there is any doubt then as to the soil where Roses are to be planted, let suitable additions be made to it. If heavy and unworkable, add burnt earth and light sharp material, such as road-sand. If light and very sandy, marl or even clay may be added and cow manure partly decayed. When dealing with a light sandy soil in Gloucestershire I had splendid results with all the Tea-scented kinds by using the decayed cow manure.

Respecting the choice of plants for growing inside, they should be worked on the Brier cutting or else be on their own roots. With many of the stronger-growing kinds there is no difficulty in striking and growing them from cuttings. Indeed, I have yet to see the variety that will not eventually thrive in this way under glass at any rate, though the progress at first may be slow. Plants of Hybrid Perpetuals may do so on the *Manetti* stock, but *Teas* are not satisfactory, while as for the *De la Grifferaie*, it is absolutely worthless for all but the strongest growers. It makes a pretty hedge if allowed to run wild, but I shall never use it again for budding Roses on. Grafting on seedling or Brier cuttings is a better way than this, for

when such plants are put out with the point of union below the soil, they are sure, in the majority of instances, to eventually root from the scion. I would like, however, to point out that this is not always as advantageous as some growers think. It is a slight help certainly, but I have pulled up scores of plants that had rooted in this way, and those with strong roots from above the top of the stock were very much in the minority. With regard to

PRUNING,

not much need be said. In the case of Hybrid Perpetuals, the demand for long stems does away with the necessity for much of this, and little growth remains in many cases after the flowers are cut. It is a weakening practice for the trees, but it shows taste on the part of the decorator. The pruning of the Tea-scented kinds is simple. Cut out what is old and worn out and whatever cannot be found room for: run up plenty of long vigorous shoots on *Maréchal Niel*, *Bouquet d'Or*, *Gloire Lyonnaise*, and others of this class, and cut them out entirely after flowering, much finer blooms that may be cut with longer stems resulting from this mode than from that which necessitates the leaving of a lot of small spray and old wood in the plants. Early in the new year the house should be closed and fumigated two or three nights in succession, the plants having previously been cleaned and put in order. Proceed slowly, will be a good maxim as regards the rise of temperature, but a house once started and the buds on the move, the trees must never be checked by a fall in the temperature. Start with a night temperature of 40°, rising by slow degrees till 55° is reached, and endeavour to increase the temperature almost imperceptibly, as it were. In the earlier stages many plants have the growth softened, and therefore weakened, by syringing—a useful aid to culture if judiciously practised, but leading to a good deal of trouble if gone about carelessly. As long as the temperature will allow of a little air being left on the ridge of the house at night, afternoon damping may be practised, and on bright, mild mornings the syringe may be freely plied about the stems, making any chance insects uncomfortable and serving to keep the foliage fresh. Avoid cold draughts of air, mildew following with certainty any neglect of this rule. In fact, this pest is almost sure to appear sooner or later, and the grower must be prepared with remedies at once. Sulphur dusted over the first mildewed leaves keeps it in check, and occasional syringing with clear soot water is an excellent preventive. As the flowers advance the sun gets more power, and to prevent the buds of *Isabella Sprunt*, *Mme. Guinoisseau* and others of these delicate and beautiful kinds opening too quickly, a light shade may be necessary. When wanted for a certain date, and it is evident they are too forward, they may be retarded a few days at least by placing a little oiled paper around them, leaving the top open and tying loosely at the stem. After the first flush of bloom is over and the house is thrown open for the summer, an immense number of small, but beautiful buds will be produced even until quite late in the season where these delightful Teas are grown.—A GROWER.

— To force Roses successfully in any quantity a separate house is necessary, as unless their every want is attended to failure will occur. Market growers who force Roses by the hundred or thousand usually stand the plants on benches covered with rough ashes in span-roofed structures, and find it answer well. For my own part, where only a limited number of plants is grown for home decoration, I prefer giving the

roots the benefit of a gentle bottom heat. This to some may sound superfluous, but I have proved its value, and if a small, lean-to house, having a pit which can be filled with leaves, is at command, nothing answers better. The price being now so reasonable, those forming or renewing a small collection cannot do better than purchase strong, well-ripened plants in 6-inch pots, and for a supply of bloom in March introduce them into the forcing house at Christmas. The pit being filled with leaves, the plants, duly pruned and drainage examined, should be stood on the surface of the bed for a start. Very little water will be needed till growth is on the move, when the pots should be half plunged and allowed to remain at that. No air should be given during December and January, as this often produces mildew. The leaves supply ammonia, which helps to ward off insects and also assists growth. When growth

leaf-mould may form a fifth part of the compost. —B. S. N.

GARDEN FLORA.

PLATE 1203.

FUCHSIAS.

(WITH A COLOURED PLATE OF *F. MONARCH*.)

HYBRID Fuchsias appear to have been first raised about the year 1837, and since that time every year new varieties have been added and some great improvements made, yet the achievements of the earlier hybridisers seem difficult to beat, especially for habit of growth and abundance of bloom. I cannot give the date of the introduction of *Rose of Castile*, but



Fuchsia General Roberts.

becomes active and new roots are numerous, weak liquid manure may be given at each watering, and during February the foliage should be syringed on fine sunny days. For the first three weeks or a month a maximum night temperature of 45° should be aimed at, raising it to 50° when the new shoots are a few inches long. As the season advances a liberal supply of air must be given and several moderate fumigations with tobacco before the first blooms open. Flowering over, all the air possible must be given before placing them in cool summer quarters. For the first three weeks the plants should have the protection of canvas fixed over a temporary framework of wood. At the end of August or beginning of September any needling it should be repotted, and the rest surfaced with good holding loam, bone-meal, and coarse sand. In the case of Teas,

I have known it upwards of thirty years, and it still remains a favourite with many. Smith's *Avalanche*, which came out about that time, is another which is extensively grown for market at the present day. I find both of these varieties received first-class certificates in the year 1872, at which time the Fuchsias seem to have been most popular, for out of about seventy awards made by the Royal Horticultural Society, twenty were gained during that year. The advent of the tuberous *Begonias* somewhat diverted the attention of growers from Fuchsias, yet I believe they are coming into popular

* Drawn for THE GARDEN in the Royal Gardens, Kew, by H. G. Moon. Lithographed and printed by J. L. Goffart.



FUCHSIA MONARCH

favour again, and deservedly so, for no other class of plants keeps up a more continuous succession of bloom, and from plants a few months old up to large specimens, Fuchsias are equally beautiful. The largest specimens I have seen were some exhibited in Brighton—the first flower show I ever attended. The same plants did service for a number of years, and among the sorts were included Sir Colin Campbell, with a large double purple corolla and red tube and sepals; Mme. Cornelissen, with double white corolla, and Rose of Castile. These plants must have been several years old, for they had hard wood to the height of about 5 feet, and all the lower branches were of matured wood, being pruned annually into shape in somewhat the same way as a pyramid Pear tree.

Quite large plants may be had in one season if the cuttings are put in early and proper attention paid to potting on as they require it. I prefer these to the old pruned-back plants, as they make finer foliage and larger flowers. There are several sorts which may be grown on from cuttings without any stopping and that will branch out and make symmetrical pyramids. To do this they must be strong cuttings to start with and must have attention, giving them plenty of room. Where it is desired to grow a few extra large specimens, they should be stood out singly or elevated on inverted pots, taking care that the lower branches are not shaded in any way. Fuchsias may be grown fully exposed to the sun provided they are not allowed to suffer from want of water. When in full bloom a slight shading will be advisable in very bright weather, as the flowers will hold on longer. Among recent additions are those with the long tubes and sepals. Earl Beaconsfield was one of the first of this class, and many others have been added since. They are not so compact in habit as the varieties grown for market, but they make fine specimens. They are also well suited for training to pillars or for the roof of a conservatory. Monarch (which is well shown in the coloured plate) is a good example of this class. Other good varieties for pillars or roofs are Olympia, salmon-pink tube and sepals, red corolla; The Shah, bright scarlet tube and sepals, and deep blue corolla; General Grenfell, coral-red tube and sepals, and bluish purple corolla; Mrs. Rundle, pale flesh tube and sepals, salmon-shaded corolla; and Mrs. Tadman, white tube and sepals, with a

tint of pink, scarlet corolla. During the past season I saw these varieties in fine condition at Messrs. Veitch and Sons' Chelsea nursery, where they were trained to the roof of a span-roofed house and were most effective. Of varieties with double corollas, Phenomenal, of which there are three varieties—one with a purple, one with a pink, and another with a white corolla—is the largest. These do not make such compact plants, but the flowers are remarkable for their size. Alfred Raimbaud, Mme. Carnot, and Duc d'Aumale are other newer sorts well worth growing. In growing

FUCHSIAS FOR MARKET, the first thing is to see that the stock



Fuchsia Queen of England.

is quite free from all insect pests. Of course this also applies to plants grown in private gardens. By keeping only a limited number of plants and giving them proper attention, more and better cuttings will be obtained than where a larger stock is kept in an unsuitable position. Before starting the stock plants into growth they should be thoroughly fumigated or dipped. The insecticide may be used much stronger before there are any young leaves, and thus ensure destroying any spider or other insects that may be on the stems. I like to have the plants in a

moderate temperature and fully exposed to the light. This ensures strong, short-jointed cuttings, which are of the first importance, especially for those grown on without any stopping. Most market growers use the shallow boxes for cuttings, and place them on a stage where there is a good heat beneath. If kept fairly moist they require little shading, will root as freely as if placed in a close pit, and are not so likely to get drawn. If potted as soon as well rooted and well attended to, they will soon be ready for potting on into the flowering pots, that is, 5-inch pots (the usual market size). After they have their final shift and are well rooted round the pots, manure may be used, beginning by using it weak and gradually increasing the strength. Either liquid manure or any of the artificial fertilisers may be used, but where the latter are given the foliage is more liable to get burnt by the sun if the plants are allowed to get a little too dry. It is surprising what large plants may be grown in the ordinary 4½-inch pots. Of course, after they are well finished and put on the market they do not last so long as when grown in larger pots and kept in the house where they have been grown. Yet being grown fully exposed to the sun they last longer than might be expected, provided they are not allowed to get too dry. It is only a limited number of varieties which find favour with market growers, and these include some very old sorts, habit of growth and freedom of flowering being considered before size of bloom. Rose of Castile is still grown. Arabella, or Mrs. Marshall, and Lady Heytesbury are the best of the light varieties. Scarcity is one of the best single dark reds. Avalanche is grown extensively. Another very fine dark kind with double corolla is Royal Purple. Ballet Girl has the finest double white corolla. Another new variety of merit is Tribute, with dark crimson tube and sepals and deep purple corolla.—A. H.

—Fuchsias are neither so generally nor so well grown for exhibition as they used to be, and few now care to keep the plants more than a few years. Plants two and three years old are the most serviceable, so that it pays to propagate a few each year. Young growths, shaded from bright sun, strike readily in a comfortable temperature; and where only a few are required, it is best to place one cutting in the centre of a very small pot; root-disturbance, by separating one from another, is then avoided at potting-off time and the young plants go right ahead. Fuchsias like a little warmth early in the year, say 50° at night, and should be syringed freely in fine weather to keep thrips away. This pest is liable to be troublesome in a dry atmosphere, and if once established must be destroyed by fumigation. A good yellow loam, with the addition of well-rotted cow manure and some coarse sand or road grit, will grow them well, and good drainage should be given. Young plants, if stopped when 6 inches high, will produce side growths. These may again be stopped, and good bushy plants in 6-inch pots secured by autumn. These will make grand bushes the following year. Fuchsias are often wintered badly, the common practice of storing them under stages and drying them off as one would a bulb resulting in many dead plants. The best position when at rest is a cool house, letting the plants remain in a natural position, so that a little water may be given occasionally to keep the wood sound and plump. Prune them well in February or March and give a warm, moist house until May, when ordinary greenhouse quarters will be best. Liquid manure made from sheep or deer's droppings suits them well.—J. C.

THE WEEK'S WORK.

KITCHEN GARDEN.

GENERAL WORK.—Up to the close of the year the weather has been so mild that all work in the open should have been gone on with, and though heavy rains will have prevented wheeling or carting on to heavy soil during the last week, the land dried up quickly and the work may be proceeded with. Owing to the mildness of the season the weeds have never ceased growing, and hoeing between small crops is a necessity. If Lettuces and other small plants in seed beds are left alone the weeds will soon spoil the seedlings. Peas in the open sown at the end of November will now need soil drawn up to protect from cutting winds. I find it well to place small pieces of evergreens along the sides of the rows to protect the growth. Peas sown in pots in frames should be kept as sturdy as possible from the start, and if at all crowded it will be well to thin at this stage. The vegetables needed to keep up the supply for forcing should be lifted from their growing quarters and laid in soil ready for use, as with severe weather it is difficult to lift them. Artichokes should be dug up and placed in a clamp. Treated thus they keep sound, but if placed in a store they dry up and lose flavour. All vacant land should be prepared for future crops, and any standing crop should be cleared of decaying foliage and made tidy.

PROTECTING VEGETABLES.—There will now be more demand for tender vegetables than can be supplied from the open unless some means is taken to eke out the supply. Brussels Sprouts and early Broccoli are not nearly so plentiful as usual, this being the result of the dry weather in the planting season. Broccoli will lift well and give heads just the size needed if taken up before severe frost checks growth. It is not safe after this date to rely upon tying up the leaves over the flower. It is better to house the plants. The Cardoons this year made a much later growth than usual, but it will now be well to lift them and place them under cover. They will remain good a long time in a cool store. Good use may now be made of the large Batavian Endive as a vegetable if there are plants fully grown and not room to house the same. Chicory forced in the same way as Seakale, if grown slowly and the growths cut when 4 inches to 6 inches long, makes a good vegetable and an agreeable change. Vegetables stored some weeks ago must be kept as cool as possible. I notice Potatoes are growing out badly, and it should be borne in mind all roots that grow freely in the store will soon lose quality.

SOWING VEGETABLE SEEDS.—Cauliflowers sown on a gentle hot-bed will give a supply if the autumn-sown plants fail. I find it well to make up a bed of leaves at this date for sowing early in the year. Many need early Brussels Sprouts, and it is a gain to grow such, as in a very hot summer the smaller plants put out late make slow progress. My best sprouts this year were those sown last January. Of course very little warmth is needed and avoid thick sowing, as the seedlings damp if too far from the glass. I find a small sowing of an early kind of Lettuce most valuable, as this gives cutting material weeks in advance of that sown in the open, and forms a succession to the autumn-sown. The same remarks apply to Leeks and Onions, which well repay being sown under glass if size is needed. A small sowing of summer Cabbage will be useful if the spring crop is none too plentiful. Those who have cold frames may utilise them for present sowing.

SELECTION OF SEEDS.—The advice to sow a few seeds to furnish earlier supplies will bring to mind the necessity of selection for next season's supply. I strongly urge growers who may not have had much experience to sow new seed of such vegetables as are a long time in germinating; for instance, Peas, as they are stronger and give a quicker return. Of course in many cases new seeds—I mean of this season's growth—are not a necessity. Any fleshy seed is best for later sowing, with more warmth in the soil to assist ger-

mination. As regards novelties, my advice is, try those the grower may think would be any improvement or add to the supply. Of late years we have had some very excellent additions to Peas, Tomatoes and other things, and if these had never been given a trial we should not have known their value. I fear seeds of certain vegetables will be scarce this year. Owing to last season's heat and drought, growth was poor and the yield small in consequence.

POTATOES.—Those who need frame Potatoes would do well to prepare the same by sprouting. Though I am aware it is not well to get the growths too much advanced previous to planting, a little growth is advantageous. In using composts for early Potatoes, it is well to use old soil or soil enriched with leaf soil, spent Mushroom manure, or burnt refuse, as in fresh, heavy soil the plants do not always tuber freely. The seed store may now be gone over and the sets prepared for planting by placing them in shallow boxes. It is a good plan to remove the weaker eyes from the sets, only leaving two strong ones; indeed, many good cultivators only leave one when it is seen which will take the lead. If the boxes when filled with the seed can be placed so that the air can circulate freely through them the new growths will be stouter. It is always advantageous to get seed from a different soil, and by doing so greater vigour is secured. There is no lack of variety, but Windsor Castle comes so good in all soils, that it should be grown in all gardens where quality is studied. Those who have not yet grown Ninetyfold will find this a splendid acquisition to the early kinds, and, in addition to its earliness, it is a splendid cropper. Many persons can grow early and second early kinds who have no room for late ones.

EARLY TOMATOES.—For many seasons I have devoted more attention to early Tomatoes, and at the close of the year the cultivator must begin to prepare plants for early fruiting. Those who may have rooted cuttings in small pots may now give a shift, and at this season of the year a better soil may be used to encourage rapid growth. It frequently happens that the plants after October get somewhat drawn, and to secure a dwarfier plant it will be well at potting to bend the stem round near the surface soil. The stem will soon root into the new compost, so that a dwarfier plant is secured. Of course, the burying of the stem needs care, but with a little more warmth after repotting, growth is soon active and a dwarf plant is obtained. I plant out the seedlings raised in August the first week in the new year. These I prefer to those raised from cuttings, as they are dwarfier and stronger. The temperature for the plants may now range from 55° to 60° at night, with a free rise by day, giving ample ventilation in bright weather, with a little on the back ventilators at night in mild weather. Plants raised now will fruit freely early in May. The seed should be given a brisk bottom-heat till germinated, and liberal treatment as regards warmth and light will be necessary from the start. Small plants raised late in the autumn should now get a shift and be given the temperature noted above for larger plants.

SALADS.—The weather up to time of writing has been so mild, that Lettuce has remained good in the open if not fully grown or blanched. Lifting of any plants large enough for present use should be no longer delayed. Nothing is better than frames if these can be spared, as the plants can be given more ventilation. If Lettuces are scarce, it will be advisable to make a sowing of the Golden Queen, a very quick grower. If sown in a frame it may be had large enough for use in April. There is no lack of good Endive, both Curled and Broad-leaved; the latter is the better keeper and should be kept as late as possible, as this is invaluable when Lettuces are scarce. Chicory forced is now valuable, and may be grown in larger quantities in midwinter to eke out the Lettuce supply. The smaller salads, such as Mustard and Cress, I sow in boxes every ten days, placing on warm pipes, the seed being

covered with brown paper. Cress often damps or mildews if covered too deeply or given much moisture; indeed, it is best covered as advised till the seed has germinated.

HERBS.—There is always a demand for green Mint early in the year, and a portion may be lifted now and either placed in boxes or on the floor of a warm house. I prefer boxes for a very early supply, as if needed quickly it is an easy matter to hasten growth. Much better results follow forcing strong roots, and these I obtain from cuttings struck in May or early June, the strong growths being selected from 4 inches to 6 inches in length. These grown on for two seasons in rich soil make splendid forcing material, being quite different from weak, thickly-matted, old roots. If large quantities are needed, the roots do well placed on the floor of a fruit house, as if not shaded in any way they will start quickly and the crop be cleared by the time the trees are in leaf. Tarragon is a favourite herb in a young green state. This can be forced as easily as Mint, and in many places the green Basil is preferred to the dried, so that seed may be sown in boxes for an early spring supply. The herb borders may get a covering of light manure to the depth of 3 inches. This will protect and give earlier supplies from the open ground, at the same time enriching the roots. Parsley so far has stood well, but some may be protected in case of severe weather. Young seedling plants may with advantage get a dressing of soot, soil, and bone-meal to encourage growth for summer supplies. S. M.

FRUITS UNDER GLASS.

PINES.—The stock of The Queen, which was rested early with the view of starting the plants in good time, may now be gone over, being examined and rearranged so as to commence with the new year in order to have ripe fruits at the end of May or early in June. If the bottom-heat material was not put in order in the autumn, as suggested when a thorough clearance was advised, it should now be done. Leaves and a small proportion of horse droppings that are moderately fresh will make a good plunging medium. I prefer it, all things considered, to tan, which is, I am quite aware, very good for the purpose, but the troublesome and oft-repeated growth of a fungoid character, which one would imagine could not exist after the process it (the tan) had gone through, has to be encountered. Even if tan be used to some extent I would still prefer to have the bottom part of leaves, or leaves and manure, pressed down firmly. For a few weeks there will not be any necessity to apply bottom-heat by means of the pipes fixed for that purpose. With a bottom-heat thermometer it will be easy to note the warmth in the beds. It should not rise beyond 80° for a few weeks, whilst the night temperature should not exceed 65° nor that of the day more than 75°. When rearranged a good soaking of warm water should be given the plants, say at about 80°, nothing but clear water being used at first or until growth is active with the fruits showing. Remove any suckers which perchance may have escaped notice in the autumn or have been too small then to claim attention. A light top-dressing of turfy loam and peat pressed down firmly, especially around the stems, will be found by the roots before long. Guard against any drip in the hearts of the plants, as it will at times lead to malformed fruits in their earliest stages. Let the evaporating troughs be kept filled, with a moderate damping down of the pathways and walls as well as upon the surface between each plant. Rather than fire excessively hard, a slight drop in the night temperature is recommended when they cannot be maintained without covering up. This should only be resorted to in very cold weather or when a keen wind is blowing. Should planting out be in vogue, let the border be first well pressed down, mulched as advised for pot plants, and then be watered. A few of the winter stock may still be in hand, yet not sufficient to keep one com-

partment occupied in a profitable manner. These if possible should be placed by themselves, but still maintaining the temperatures, where they will not occupy so much space. This will afford the means of preparing for another stock of fruiting Queens or of suckers which it is desirable to push on early in the new year. Do not, however, for the present entertain any ideas of repotting. If suckers from plants just fruited are kept, let them be put into small pots for the time being. Possibly such as these could be placed with the early Queens. If the stock of any kind is scarce it will pay to keep the old stools for future suckers. Keep a constant and sharp watch against the least possible appearance of white scale, which is more to be dreaded by Pine growers than all other insects put together.

MELONS.—FIRST EARLY.—Where Melons are looked for towards the end of April or early in May a start should now be made. Do not depend so much upon mere size for first early fruits as upon smaller and prolific free-growing kinds. As examples, Syon Perfection, Sutton's Scarlet, and The Countess are quoted. At this season of the year, with no prospect for another month of any really marked increase of daylight, it is not so easy a matter to raise young plants of good sturdy growth. They should be raised in such places as propagating pits where it is possible to keep them near the glass. The time-honoured plan of placing the pots with two seeds in each in the evaporating troughs is not at all a bad one when each pot is plunged to the rim in fibre. If the seeds lie long in the ground they are liable either to decay or to start weakly. A second sowing should follow within a week in case of any mishap. Better do this than sow so many all at once.

VINES IN POTS.—These, which were started early in November, are now pushing away freely, but, as usual, the uppermost parts of the canes were gaining in strength at the expense of the lower portions; therefore the former have been bent down for a time to regulate the flow of sap. With the plunging material of leaves only a warmth of 75° is maintained at the roots. This, with a night temperature of nearly 60° or thereabouts, will soon hasten matters, the moisture in the leaves lending a timely aid. Until root-action is free, watering will be attended to with some caution. A word of caution may be necessary as to the treatment of later pot Vines not yet started, and also of those which it is intended to grow on or those which are for planting out; this caution refers to the protection of the roots during frost. If the pots are not yet covered, if out of doors still, no time should be lost in doing so. I can very well remember a marked failure of pot Vines occurring which could not to all appearance be traced to any other cause. The pots so soon become cold, and as the chief part of the fibrous roots is around the sides they receive a check not so readily overcome as some would imagine. If these Vines be under glass, they are, of course, safe where frost is excluded, but in that case see that they do not get too very dry at the roots. The pruning of all of these Vines should now be done, dressing the wounds with styptic to prevent bleeding.

PERMANENT LATE VINES AND YOUNG VINES IN BORDERS, &c.—These should now be all pruned so as to give work in cleaning if bad weather supervenes, as well as for the good of the Vines themselves. These will all be safer if dressed with styptic or painter's knotting, which is equally effective. When late Vines are retarded during March there is often an inclination to bleed if the Vines be vigorous, and the same applies to young Vines in their exuberance of growth when the leaf development is not fast enough for them. See that all inside borders where the Grapes have hung up to Christmas are well watered at once. It is assumed that all late Grapes are now cut, or will be within a few days' time. To let them hang later than this where there is a good Grape room is not expedient. I know it is done in large trade-growing establishments, but it taxes the Vines even when the buds are all cut

out back to the base buds and the roofs darkened by means of clay and lime. This treatment in private gardens cannot be recommended for general adoption, being most unsightly. Give close attention now to the bunches of Grapes that are cut and placed in water in the fruit or Grape room; a night temperature of 45° as the lowest and 50° as the highest will answer well, with but little variation during the day from these figures. Remove every berry showing symptoms of decay, and take care to keep all the ventilators closed during frost, fog, and damp weather. See also that all young Vines where planted inside do not suffer from drought at the roots; when they do, it is simply ruinous to them. A case of failure now comes back to the memory, which was no doubt traceable to this omission to keep the inside borders well watered. When the cleaning of the Vines and the houses too is all completed give the borders a top-dressing or mulching. If it be a top-dressing, remove first the surface soil down to the roots in a careful manner and then add fresh turfy loam with some bone-meal or its equivalent. If this be done one year, the mulching alone another year will be sufficient; this may take the form of well-rotted cow or farmyard manure which is not too highly charged with ammonia. Where very early forcing of permanent Vines is not practised, the present is a very good time to start a house in order to have ripe fruit towards the end of June. If such a house has an outside border, guard against its being frozen, dry litter being a good covering medium. In no case should the Vines be left without a little protection at the roots during a sharp frost just around the stem where most exposed.

HORTUS.

CHRYSANTHEMUMS.

BORDER CHRYSANTHEMUMS AT CHISWICK.

A GREAT deal has been said concerning the above trial of Chrysanthemums, which were planted expressly for test purposes on May 26, 1897. To make that trial more generally complete, and, at the same time, serviceable, the plants were allowed to remain during the winter of 1897-8. The trial during the season of 1897 was satisfactory from all points, the plants almost without exception producing a wondrous harvest of bloom. So far, however, only the praises of the trial have been sung, the seamy side, so to speak, of the subject having been deferred. That there is a seamy side to the subject may be gathered by a glance at the trial border any time this season from June onwards, when those having life remaining were in full growth again. Compared with last year the display was far inferior. This is due largely to the numerous gaps that occur in the collection in consequence of the death of many kinds during the autumn and winter of 1897-8. But it may be said the winter referred to was remarkable for its mildness and dryness, so much so that the test as to hardiness is not a good one. But if severe frost was absent in great degree, the Chiswick gardens were long enveloped in poisonous fogs, and it is doubtless these that have played such havoc with the collection. All the same, it is very curious that it is not one stock or two wherein failures occur, but in all. This is a very remarkable fact. Therefore, putting aside the drawbacks of locality, if such exist, the only possible excuse for failure would appear a certain innate weakness of the variety itself. This at least appears the simplest and, indeed, to me the only feasible explanation that may be offered of the death of so many apparently good things in the first season. The failures would be of no moment were it not for the endeavour to distinguish the group as "border" Chrysanthemums, with which hardiness would appear more or less inseparable. As the matter now stands, there undoubtedly appears a certain proportion of kinds possessing a constitutional vigour that, rightly regarded, should prove of immense value

in the near future. If such failure is due to innate weakness of constitution, that kind should be marked as unsuited for future experiment. There is the so-called "rust" in the air, and judging by the wholesale manner it attacks plants, it will be well to take a stand by the side of the most vigorous kinds.

Quite early in the year I noticed many open spaces in the trial border of these things, and in subsequent visits I jotted down, I believe, the majority of the absentees. These, I regret to say, include many beautiful things, which there is no need to discard in those instances where a summer display is made each year. At the same time it should be made clear that the same or similar colour exists in the more enduring kinds, so that the reason for retaining the former is minimised. Of the collection as a whole the journal of the society contains descriptions and marks bearing on this standard of excellence, given of course at a time when the enduring qualities of the plants had not been tested. In one other respect the collection as a whole has not equalled expectations in the second year. Planted so late as May 26, 1897, and generally in small plants, it was not unnaturally thought some varieties had scarcely done themselves justice, and that the established plants would not only have given a finer display of blossom, but a decidedly earlier one also. This latter opinion I also expressed, but owing to the heat and drought it has not been realised. Many kinds indeed were later by some three weeks in coming into flower than in 1897. It is due first to a very dull, cold, sunless time in April and May last, and secondly, to the great parching heat that so long prevailed in summer without atmospheric moisture.

The following are the names of the kinds failing, i.e., kinds which appear to have vanished entirely, and may be of some use to those making a selection of the hardiest sorts: Mrs. A. J. Parker, October Yellow, Fred Pele, Edie Wright, M. Dabor, Dorcis, Gloire d'Astaford, Scarlet Gem, General Hawkes, M. A. Dufour, O. J. Quintus, Nanum, Mons. Foukabra, Mme. Leon Lassalle, Martinmas, Mons. F. Sismayer, Mme. Gabus, Montague, M. Z. Lionnet, Gold Fleece, Mme. Eulalie Morel, Claret Belle, The Don, A. Gaby, Harvest Home, Mychett White, Sam Barlow, M. Chauchard, Mme. A. Nonin, Grace Attick, October Queen, and Mme. Fredk. Us-mayer.

The above may not prove an absolutely complete list of the failures, it is, however, complete in so far as the labels denote vacancies in the border, and while the foregoing list is a formidable one, it will be seen by comparing the report in the society's journal on the subject that a large majority of the very cream still remains. These latter indeed yielded a rich harvest of bloom during the past few months and well deserve their title of border Chrysanthemums. E. J.

Chrysanthemum John Shrimpton.—This is one of the best varieties I have tried for growing in small pots for grouping. If struck in May and placed in 5-inch pots nice little bushy specimens can be had by the time the principal stock is housed, and flower after these are over. If wanted to bloom in November, the cuttings may be inserted in April, the resulting plants being somewhat larger. The colour is bright red, and it has a fine appearance when grouped with the paler-coloured single kinds, such as Purity. I have not found a better kind in its colour for this purpose since the old Cullingfordi, which it resembles a little in habit.—N.

Single Chrysanthemum Miss Rose.—This is a beautiful variety and has been much admired here both for cutting and as a pot plant. It may be struck quite late in the season and yet flower well, but my best and most useful plants were struck in April. Three or four cuttings are placed in a 3-inch pot. As soon as ready they are placed in the 6-inch size and grown on as well as possible, keeping them well watered and syringing freely to ensure the foliage remaining

fresh and green quite to the base, for half the beauty of these charming flowers is lost when they have bare, leggy stems. As cut flowers for any kind of decoration they are first rate, and they last well in good condition.

Anemone pompon Chrysanthemums.—A correspondent lately referred to the great value of these small-flowering Chrysanthemums and mentioned Marie Stuart as a beautiful variety. I am glad to find this still finds favour, as for general decoration in conservatory or drawing-room or for cutting I consider it one of the very best in cultivation. Moreover, it is such a good grower, that spring-struck cuttings make dense bushes in 6-inch or 8-inch pots, and I have seen plants 5 feet in diameter from autumn-struck cuttings and furnished with hundreds of lovely trusses. Very little disbudding is needed, merely sufficient to enable the blooms to expand fully without crowding.—J. C.

NEW CRIMSON-COLOURED CHRYSANTHEMUMS.

It is a general complaint that whites and yellows predominate too largely in Chrysanthemums. Of course there is truth in it, and year after year they go on increasing. A pleasing feature, therefore, of the present season's novelties is that several notable additions have been made to the crimson shades. H. J. Jones, an English-raised kind, is a particularly rich dark crimson bloom. In size and form, too, it is not wanting. Lord Cromer has blooms of medium size, but of a very rich crimson colour and the petals are stout and lasting. A very handsome flower is Hon. W. F. D. Smith. The colour is dark crimson-purple, petals of exceptional length, drooping gracefully, and the build of the bloom is perfect. If it be constant and easily grown this sort will be highly esteemed. It is an English seedling and the flower noted was exceedingly well grown.

The worst of many English seedlings is that they do not improve by being generally cultivated. It would not be a difficult matter to name a goodly list which has been seen in fine form once, but seldom afterwards. Henry Weeks is yet another splendid crimson variety raised in England, and of fine colour and proportions. I hope this will prove constant like the variety of last year from the same source. J. Chamberlain is a truly grand Chrysanthemum, so rich in colour and lasting. John Pockett, indian-red, with old gold reverse, is a noble incurved flower and most distinct. This is an Australian kind of capital growth. From the same country came two sports from the well-known Pride of Madford, named Mabel Kerslake and Pride of Stokell. They are rich crimson-red in colour, being practically the same. Curiously, I met with a similar sport in Kent the other day. The grower with whom it sported has had it two seasons, but valued it lightly. It is, however, like the others, very fine. This, I fancy, is the first instance of a Chrysanthemum sporting into a new colour in such far-off places at most likely the same time. Mme. Rene Solomon is likely to be an acquisition as regards colour. It is quite a crimson-brown. The flower is full and well formed. Mr. T. Carrington has blooms of fine dimensions, and will thus be of value to exhibitors. It is rosy carmine in colour and of noble build. A remarkably rich shade is found in Purple Emperor. This gives blooms of medium size, the florets being somewhat short. Master H. Tucker improves on further trial, and is now a gain as regards colour, besides other good qualities. Secrétaire Fierens has flowers of a rich hue when opening, but with a somewhat faded look when fully out. Royal Standard, so highly thought of as a crimson sort last year, has not fulfilled expectations—at least with me; nor does David Inglis appear likely to be much cultivated.

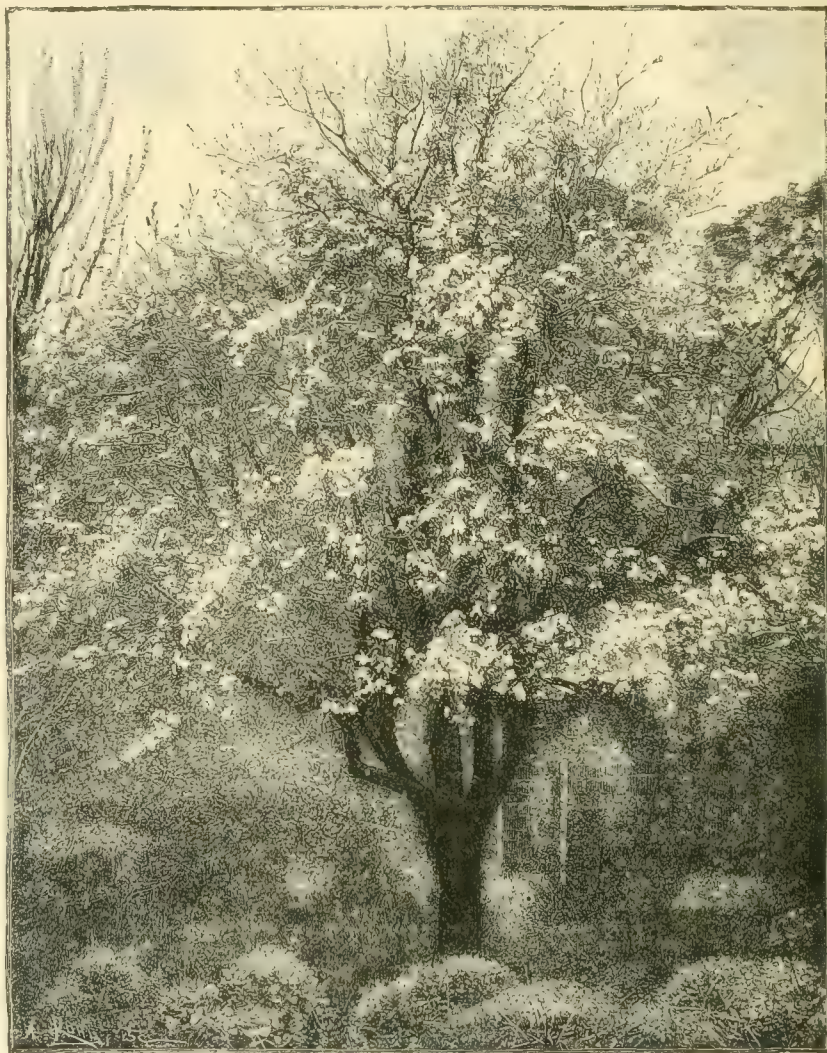
I sometimes think we discard old sorts too readily. F. A. Davis, or Jeanne Délaux, as it was seen some ten years back, was a very fine crimson

Chrysanthemum. The variety E. Molyneux still holds its own and has been noted in good condition in several instances this year. Nyanza and Beauty of Castlewood also are magnificent flowers, but rarely well grown, and William Seward, like the rich-coloured G. W. Childs, is gradually going out of cultivation owing to the prevailing taste for varieties of huge size. H. S.

POPULAR SHOW CHRYSANTHEMUMS.

WITH the great wealth of new varieties introduced annually it is strange that so many older standard sorts still claim so much favour among exhibitors. One has only to critically examine the reports of shows or note the varieties

growers. "C. H. P." gives a list of some of the foremost favourites in the older standard sorts; if he would give a selection of some of the modern novelties that growers need as an augmentation to the existing stock, I am sure many inexperienced readers would benefit. Those who have to depend solely on catalogue descriptions in making a choice find a difficulty when their purchases are measured by small numbers. Since the introduction of so much novelty in the incurved section, it has begun to revive an interest that was fast declining, both among growers and the public who patronise the numerous shows. There is no doubt that some among the new incurved are a distinct gain to that section, and from a grower's point of view a stand containing a good proportion of new ones is as interesting as



Marie Louise Pear tree in bloom. (See p. 525.)

staged at some of the best provincial exhibitions to see what a large proportion of older varieties is shown. There are undoubtedly a great many new varieties that are disappointing, and not a few are grown one year to be discarded without further trial. This is to some extent the outcome of the variable influence of the season in which they are grown. The past summer has been one that has furnished many difficulties, particularly where a short water supply prevailed. But for the great number of growers who compete, shows must of necessity suffer in such a season as that now closed, for the fact is admitted that many collections this year have been below their average in quality of bloom. The leaf rust, too, spoilt the chances of some otherwise good

one containing Japanese kinds. The older Queen family is now fast declining in popularity; it will be lost to cultivation in a few years' time, judging by its scanty representation at the late shows. It is a pity the single, pompon and Anemone pompon sections do not enlist the attention of growers and societies more than is done. Classes for these, if well contested, would make a bright and varied feature, to my mind far superior to the formal and often ugly reflexed kinds which find a place in many schedules, and often make a scanty and uninteresting display. The singles are certainly making headway, and the interest in them is stimulated by the numerous novelties submitted by a few of the leading specialists.

ORCHARD AND FRUIT GARDEN.

STOPPING YOUNG VINES.

THERE still exists a difference of opinion as to whether young Vines should be stopped during the first season of growth or allowed to grow unchecked. Old Grape growers believed in letting growth go unstopped to the top of the house and even down the back wall, and a few when planting cut-backs allowed the lower as well as the terminal eyes to extend their growth, thus having as many as seven or eight rods to one Vine, each striving to outgrow the other. The laterals were not even stopped, and by the autumn the house presented a perfect thicket of wood. The idea was that as a Vine made roots in proportion to the growth this extra amount of wood and foliage resulted in the formation of a numerous colony of fibrous feeders, and that hard cutting back being practised, grand fruiting rods were made the second year.

The late Mr. William Thomson was strongly in favour of this system, and all will admit that in the early days of the Clovenfords vineyard he grew grand crops of Grapes. One or two of the large vineries at Hutton were also treated similarly, Mr. McIndoe, I believe, having no cause for regret. I am aware some have characterised the system as a waste of time, there being no length of rod left for bunch production the second year, but if it can be proved that the future cropping powers of the Vine are greater than in those which are subjected to restriction the first year, then there is a gain in the end. Vines that are stopped the first year ought to be strong and vigorous, as if at all weakly they seldom make anything but a spindly growth afterwards. Market growers generally stop the young Vines the first summer when a few feet of growth have been made, with a view to securing plump eyes at the base of the rod for producing bunches the next year, and as they feed liberally and only expect their Vines to last a comparatively short time, early stopping is perhaps best. Much, however, depends on the strength of the Vines and the culture given. A mistake sometimes made by those having had but limited experience is permanently stopping the leader when the top of the trellis has been reached and keeping all laterals closely pinched also, the result being bursting of the eyes lower down the rod and the practical ruin of the Vine. A little growth should be allowed on the topmost laterals to carry off the sap.

J. C.

Fig Negro Largo forced.—Although this Fig is a capital sort for growing in pots, my experience is that it will not force. Even on well-ripened trees the few fruits which formed on the extremities of the previous year's wood fell off when they had swollen to the size of horse beans, and the majority of the shoots showed no fruit at all. It wants to make new growth ere the fruit appears, and on this there is usually abundance of Figs. Well established trees in medium-sized pots, if top-dressed and liberally fed, swell off large highly-coloured, deliciously flavoured fruit. If introduced into a light, sunny house early in March, ripe fruit will be forthcoming at the end of July and during August. Negro Largo hangs in good condition longer than most Figs.—N.

Apple Gooseberry.—I remember this Apple being planted in Essex more than thirty years ago, which was, I believe, when it was first introduced. Gardeners expected great things of it, but for a good many years after planting I do not recollect seeing a really good crop of fruit on it. It is a large handsome Apple, excellent for cooking and, I believe, a good keeper. The

only reason I can think of for its not being generally grown is its shyness in bearing, resembling in this respect—at least in a young state—Blenheim Orange, Bramley's Seedling, and Peasgood's Nonsuch. I believe the Gooseberry Apple is still sold by a few nurserymen, and if any readers of THE GARDEN have it I shall be glad to hear their opinion of it.—J. CRAWFORD.

A great Grape class.—In commemoration of the holding next year of their twenty-fifth exhibition the executive of the Shropshire Horticultural Society purpose offering at Shrewsbury in August next a sum of not less than £100 in prizes for twelve bunches of Grapes in six varieties, two bunches of each variety only being shown. Whilst the sum offered is most munificent, no doubt interest will be largely excited as to the number of prizes into which this big sum of £100 will be divided, as the extent of the competition will be doubtless largely determined by the numbers of the prizes. Certainly the result of such a class should be to bring together the finest examples of Grapes in the kingdom from those gardens where a sufficient number of varieties is grown. For the first time in the history of this great exhibition foliage effects will be sanctioned in a Grape class, and whilst any length of Grape boards, howsoever superb the bunches on them, looks somewhat monotonous, it will in this case be possible to break up that monotony by the introduction of a few plants and some pleasing foliage. As space is to be severely limited in length, it seems evident that the boards will have to be arranged in tiers one behind the other, but it is hoped that tables will be so constructed as to enable that form of staging to be easy. The Royal Horticultural Society's code of judging rules will constitute the guide for the judges. To northern growers perhaps August may be rather early, but having long prior knowledge of the class they can take needful steps to accelerate their Vines if desirable.—A. D.

Drying off v. ripening off.—We have been so accustomed to look for abundance of colour in fruits and foliage after a hot summer, that it has come as a surprise to many to find that Apples are not nearly so highly coloured this year (after one of the hottest and sunniest of summers) as they usually are after one of our dripping and cloudy seasons, while foliage has kept remarkably green and hung on the trees until an unusually late period. At the great fruit shows in the metropolis and Crystal Palace it was singular to find the Apples from the western counties better coloured than those from the south, or even from Kent, with all its advantages in many ways for fruit culture. I think that anyone who was daily taking note of the fruit trees during the long protracted drought could come to no other conclusion than that the lack of colour was clearly the effect of want of moisture both at the root and in the atmosphere, for even where artificial watering was resorted to the atmosphere still remained unusually dry and calm, and I have a strong suspicion that a very calm period does not promote high colour, and artificial watering, although a great help, can never replace the lack of rain water. Happily, the process of drying off plants, under the impression of ripening them off, is nearly a thing of the past, and the sooner it is given up the better, for certainly one of the lessons taught us by the late protracted summer is that sunshine alone will not give high colour unless accompanied by a corresponding amount of rain, so that the trees can perform all their functions without a strain.—JAMES GROOM, Gosport.

Filberts and Cob Nuts.—Except in a few districts, Filberts do not receive the attention they deserve, and even where grown they are often accorded an unfavourable, out-of-the-way position, where they easily fall a prey to such enemies as the squirrel and nuthatch. The former devour the Nuts wholesale, while the nuthatch, a small bluish coloured bird with a powerful bill, carries them to a gate-post or tree, and,

after fixing the Nut firmly in a crevice, quickly hammers a hole in the shell and devours the kernel. The trees are, therefore, better planted where they are under the eye of the gardener, and more likely to receive attention and to be kept free from an undergrowth of weeds and rubbish. Although the common Hazel Nut is found growing and fruiting freely in shady woods, the finer kinds do better in a fairly sunny position, the husks of such fine varieties as the Prolific Filbert colouring beautifully and looking very handsome in the dessert. Both Filberts and Cobs will thrive in a soil that would starve the majority of fruits, but for all that they pay for a decent soil and an annual mulch of good farmyard manure. If of sufficient depth to allow of trenching, the ground should be so treated, working in a liberal supply of well rotted manure, doing the work early enough to allow of it settling well previous to planting. This is essential both to keeping the roots at home and for the retention of moisture the first summer. The trees are sold both in standard and dwarf forms, the latter, perhaps, being the better for ordinary culture, having a clear stem of about 2 feet or 2½ feet, so that the hoe can be worked beneath during summer. Fine crops of Nuts may be grown on trees which are allowed to make a free, unrestricted growth, provided the centres are kept open and all spray and weakly growth removed. The finest produce, however, comes from trees having a limited number of main branches, these being closely spurred in. Young trees will need watering the first summer if dry. The best sorts are the Prolific Filbert and Kentish and Webb's prize Cobs.—NORWICH.

GARDEN WALLS.

A CORRESPONDENT recently asked for the best materials for training trees on walls that have just been erected. I have never found anything better than the cast nail in various sizes, which can be broken off rather than drawn when not required, and medicated shreds with tar twines, known as Nos. 202 and 302 respectively, for small, medium and large branches. This will reduce to a minimum any harbour for insects. The query, however, opens up the wider question as to the advisability of building garden walls in these days, and I should answer it most decidedly in the negative. The two points designers of gardens had in view in bygone days, when the first thing to be done was the building of a wall 10 feet or 12 feet high in a square or rectangle, as the position required, were accommodation for choice fruits and protection for things within the enclosed area. I am writing solely of kitchen garden walls, and have nothing to say against the erection of low walls or arches in suitable places for the growth of beautiful climbing or trailing plants. Shelter can be provided quite as effectually, more cheaply, and certainly adding far more to the beauty of the garden if belts of quick-growing evergreen trees are planted on the north side of the fruit and vegetable garden from west round to east, whilst so far as the accommodation for choice fruit is concerned, the cheapening of woodwork, glass, and all matters in connection with the heating apparatus enables orchard houses to be run up even at an initial cost not exceeding what would be paid for garden walls; and certainly, when one considers the safety of the bloom under glass and the ability to dispense altogether with all protecting material, would give a monetary balance in favour of the orchard houses. A lot of sentiment hangs about old garden walls, and personally I would not advocate their removal, but certainly would never copy them in the formation of a new garden. I have had rather more than my share of them, and it is not an easy matter to grow good fruit where they are battered and knocked about with close on two hundred years' nailing, and no facilities exist for filling in the holes except with a home-made mixture that is put on as time and circumstances permit. In lieu of walls I would strongly recommend a couple of span-roofed struc-

tures for early and mid-season Peaches and Nectarines, orchard houses for early Cherries and Plums and cordon Pears, and the bush system of culture for any other fruits that may be required. In the erection of houses for fruit growing, private gardeners have much to learn from market growers, who run up something that answers the purpose admirably at a minimum of cost.

I have been led to these suggestions partly in following the query in a recent issue and partly from an inspection of the work of a local market grower who has just decided to make a start with Peaches and Nectarines in addition to his Grapes, and is covering half an acre of ground with glass for the purpose. Every provision for the well-being of the trees is made, and at the same time every bit of ground is utilised at the lowest possible outlay, and those on the point of laying out new gardens and who contemplate building long stretches of brick or stone walls may well hold their hand until they consider if better and, in the end, more economical provision for fruit growing cannot be devised. Replying to the query as to staples, I should say that staples driven into the wall 15 inches apart would answer the purpose for all climbing plants and those fruit trees that, once established, will be pruned more or less on the spur system, as dessert Cherries, Plums, Pears, and Apricots. Temporary lengths of small, but firm wood that may be made from the annual cutting down of hardy Fuchsias can be used for the young growths as required and removed as the branches increase in size, and can be secured to the staples. It is not advisable to let the two come into immediate contact. I quite fail to see the necessity for elaborate lattice-work of Oak, Chestnut, or Bamboo. For Peaches, Nectarines, and Morello Cherries I should recommend galvanised wire as the neatest, most lasting, and consequently the most economical method. There is not the slightest risk of damaging the trees if care is taken in the tying in.

The outcry against the wire is well enough in its way as a precaution, but it may be pushed too far. There are scores of places where it is in use in which splendid crops of fruit are annually produced.

I have no special brief for the wire, but—give it a hearing. The market grower I have mentioned in the notes will train his half acre of Peach trees on galvanised wire.

E. BURRELL.

Claremont.

Apricot pests.—As a rule the foliage of Apricots is not subject to attacks from aphids or red spider in the same degree as that of the Peach and Nectarine. All the same, it has its enemies, which must be promptly dealt with, or the trees and crops soon suffer. At this time of year the trees should be closely examined, and if any brown scale is visible, means at once taken to eradicate it. I have found no insecticide to equal soluble paraffin, diluted according to instructions on the tins. Let the trees be well syringed, repeating the dose in a day or two. If badly affected, the branches should be brought away from the wall, so that every part of the tree can be reached with the mixture. When carefully applied I have never known it to fail. By

its use also labour is saved, as no second man is required to keep the mixture in motion, as is the case when ordinary paraffin is mixed with water.—C.

Peach Stirling Castle.—I am pleased to find that both "Hortus" and Mr. Wythes grow this Peach. The former speaks of it as not dropping its buds, and this is my experience. I think no early Peach house, where the fruit is wanted, say, in June, should be without a tree of Stirling Castle, as with a good root condition and ordinary treatment a crop of fruit is certain. A friend of mine used to start the tree about November 20, and invariably gathered fine ripe fruit the last week in May. The tree was thoroughly established, and used to swell its buds as soon as a gentle warmth and moisture were supplied. As a correspondent recently observed, young Peach trees do not as a rule force readily, age being wanted before one can really rely on the trees for free and constant cropping. As

if fruiting has commenced, and to water well once or twice during the summer. When free from grittiness, I look upon Beurré Diel as a most valuable Pear, as it keeps such a long time.—N.

Keeping Grapes in bottles.—I read with interest Mr. Tallack's recent remarks on keeping Grapes in bottles in winter. I, like him, cannot see any advantage in putting charcoal into the water. The bunches which had no charcoal kept just as long and as well as those that had it. As Mr. Tallack says, there is always a risk incurred in adding fresh water to the bottles, as some is likely to be spilled and find its way amongst the berries, starting decay. It is nice to have a Grape room, as once the bunches are placed in it there is no further trouble in moving them, but I have kept Alicante, Lady Downe's and Trebbiano perfectly sound and plump till April by standing the bottles on a brick ledge close to the front lights of a span-roofed vinery, only, of course,



The White Heart Cherry in bloom. (See p. 525.)

"Hortus" observes, the blooms of Stirling Castle are always furnished with plenty of pollen, which is useful for fertilising other less certain varieties in flower at the same time.—J. C.

Pear Beurre Diel.—At page 428 "J. H." gives his experience with this handsome late Pear. Referring to its grittiness—a fault it has in more gardens than not—he expresses an opinion that want of sufficient root moisture is in the main accountable for it, and recommends liberal supplies of water as at least a partial remedy. I am inclined to think "J. H." is right, as an old tree I had under my charge yielded very fine fruits which were more or less gritty. Occasionally, however, the quality was much more juicy and free from grit. I kept no memorandum, but, had I done so, I should doubtless have found the improvement occurred in moist seasons, as then the foliage and fruit as well as roots got more moisture. After these experiences it would be advisable for those planting or already having young trees, to mulch the roots liberally, at least

those that were left had then to be moved to other quarters when the vinery was washed and prepared for starting. I have kept Grapes sound for a considerable time by inserting the laterals in Mangold Wurtzels and laying these along a fruit room shelf, the upright edge keeping them in position.—J. C.

Mulching Strawberries.—Strawberry beds occupying fairly retentive soil were this season none too moist when the crop was swelling off and ripening, but where the situation was high, with ample drainage, and the soil light or sandy, those who did not mulch their beds early enough to prevent what moisture there was in the ground from escaping will, I fear, in many instances have had the annoyance of seeing well-cropped plants partially collapse before maturity was reached. With some gardeners no mulching is given beyond one of strawy material or bracken in summer to keep the fruit clean, and in ordinary seasons and fairly strong soils no harm may occur from the omission of autumn or early spring

coverings of short manure, but I have had soil to do with which in extra dry seasons, unmulched before March, would have become so parched to the depth of the Strawberry roots from undue evaporation, as to cause both foliage and fruit to collapse. What I like best is to well mulch in November or December with short litter from the piggery, taking care that this is well saturated with the urine. By winter rains this is washed clean and the roots nourished, the labour also of mulching when gardeners are always busy is avoided, and thus two birds are killed with one stone.—C.

Apple Ribston Pippin.—Judging from the number of dishes of Ribston Pippin shown at the Palace show, it does not seem that the idea of some that this variety is dying out is correct. The Ribston can be grown as well as ever, provided a warm, well-drained soil and sheltered situation are given. It does best as an espalier worked on the Paradise stock, fruit from such trees, if not unduly shaded by allowing too many spurs to form, growing to a large size and colouring beautifully. The Ribston is not suited for orchard planting, as the trees never make large heads and seldom live to be old. I have known orchard trees have plenty of bloom several years in succession, yet not produce a single peck of fruit, a few cutting winds seeming to paralyse the bloom.—J. C.

Peach Prince of Wales.—There are a few Peaches of good flavour and good setters and bearers that are nevertheless seldom seen or heard of. Amongst the number is Prince of Wales. True, its shape is not handsome, being rather rough and irregular, but it usually colours nicely, and as to its flavour, I do not think much fault can be found with it. The blossom is very small, but it invariably sets freely, while I never knew its fruit to fall when stoning, which most varieties are apt to do more or less. I have only grown it under glass, and have never attempted to force it, but allowed it to come on gradually with the aid of husbanded sun-heat. This treatment suits it well. Although not a thick-skinned Peach, it bears handling and travels well. From its behaviour under glass I am inclined to think it would do well out of doors.—NORWICH.

Trellis for walls.—I note at p. 458 the editor gives some excellent advice as to the use of Bamboo for attaching fruit trees to walls. Bamboo canes are not costly and they are lasting, but in some places they are not to be had, and in such I used common laths, such as plasterers use, and they answered well. They may be had in lengths. Mine were 5 feet, and the walls being 11 feet, two gave me the length for the wall in height at 1 foot from the soil. They were fastened to the wall with nails and lasted from six to nine years. Of course, once up they were not removed. It was a rare occurrence for the laths to get loose. Each set of laths was placed at 15 inches apart and there were no cross-pieces. With fan-trained Peaches or Nectarines these are not needed. I am unable to give cost of this mode of training, but it is very small; a bundle of laths goes a long way. After fixing the laths they were studded with nails or eyes to tie to, but this training is only advised for Peaches or Nectarines.—G. W.

Planting young Apricots.—The time is at hand when lifting and planting Apricot trees will have become general. One cannot too strongly condemn the common practice of planting young trees in the same soil as the old trees occupied. True, a little fresh compost is usually placed over and around the roots, which is all very well as far as it goes, but they soon pass through this into the original compost, the exhausted character of which was probably one of the chief causes of the collapse of the old trees. I am aware making new borders of maiden loam which has to be prepared is both an expensive and laborious operation, but there is really no need for this, all that is needed being to take out a few feet of the old border for a start and to replace it with average kitchen garden soil. To this add a small quantity of newly-cut turf,

abundance of lime siftings, old mortar or plaster refuse, and wood ashes, these ingredients being thrown in and mixed as the work proceeds. This will grow Apricots well, and the risk of the trees making gross wood for the first few years, as is often the case when planted in rich loamy borders, is greatly lessened. Let the new border be thoroughly well firmed and planting completed, well watered, and the trees mulched. Owing to the excessive drought, trees will, I fear, lift none too well, but purchasers should see that what fibrous roots there are are preserved in as good a condition as possible by arranging with the nurseryman to envelop them in some well-moistened material. If this is not done, wood-shrivelling may be expected, this affecting the whole tree more or less, and giving it, to say the least, a bad start. Wherever practicable, it is a good plan to visit the nursery in good time, selecting the trees and having the purchaser's name affixed. I should add that it is always advisable to raise Apricot borders somewhat above the surrounding level, this being still more important in low-lying, damp situations.—J. C.

SCARCITY OF WINTER PEARS.

THE season generally has not been favourable for an abundant, or even an average supply of autumn Pears, and the prospect for winter use is much less so. During October and November there is abundance; indeed, many more than are required, but by the end of November the list is considerably lessened. To those who depend on the fruiterer for their dessert this is not so much a matter of concern, because of the supply of foreign Pears which come to us in such fine condition. There is a wonderful influence brought to bear on the keeping of Pears in the fruit room in which they are stored; in one they keep so well as to extend the season of almost any one sort days longer than can be done in another, when to outward appearance and in construction the one would seem as well fitted for the purpose as the other. It is an easy matter to provide a quantity for October and November from almost any building, but the test comes when November sorts are expected in the following month. I know of a small garden in this neighbourhood in which is a fruit room that is remarkable in affording a long succession of Pears. Varieties which in my own case would be in use say in November can easily be kept well into the next month, and yet the position, being east, would not apparently be so favourable as in my own case, where the fruit store is against a cooler and lofty north wall. It is not an easy matter to explain why this should be so, but the fact remains. As I have previously intimated, winter Pears are by no means plentiful either in variety or quantity, birds, wasps, and spring frost each severally accounting for partial crops to gather in, and in the matter of variety there is not so much choice. At present, Napoleon Savinien affords the larger bulk; this the garden enemies did not presumably find good enough in a green state, and there is unmistakable evidence that birds and wasps have a strong instinct in finding out the best quality in Pears or Apples. Winter Nelis is a variety that, although ripe enough for dessert in November, can be kept until December without going rotten at the core as some sorts do. Josephine de Malines, often described as a January Pear, cannot always be kept so long. It is, nevertheless, a good keeper and a deserving variety to plant. Ne Plus Meuris extends over a longer season than any other I have, and although its quality is not of the best, it is useful on that account. Even if it does not ripen fast enough or its quality is not quite good enough, it can be used for stewing. Easter Beurré, so far as concerns its name, is a misnomer. I have never been able to keep it through January, and Christmas can often be taken as its season rather than Easter. Though not of high quality or so late as indicated by its name, it is none the less a useful sort. Glou Moreau is a good or an indifferent Pear according to the age of the tree and the soil

in which it grows. Bergamot Esperen may be mentioned as a useful late sort, though small, and, like Ne Plus Meuris, a free and constant bearer. W. S.

Wills.

Pear Comte de Flandre.—I have had no previous experience of this Pear, which is now ripe, it having fruited for the first time this year. It possesses a finely-grained buttery flesh, is juicy, and richly flavoured, and the size of the fruit is from medium to large. The trees I have are single cordons growing on a south-west wall, the growth of which is fairly vigorous and quite healthy. Another season's trial is necessary before giving a final opinion, but so far it appears to be a valuable variety if only from the fact of its ripening at the end of the year.—A. W.

Plum Grand Duke.—As an espalier-trained tree for an east wall I find this a very useful blue Plum for August use, and, like Prince Englebert, which "Norwich" mentions, it is a good keeper. It bears very freely, and when quite ripe is not despised for dessert, though there are other Plums ripening at the same time which claim a higher character for quality. As a cooking Plum it might be planted without any doubt when variety is desired, and for every-day use there is need for this, even if the same uniformity of quality is absent. It has, like some other blue Plums, a very dense bloom, and when required for dessert demands care in gathering, or much of its beauty is lost.—W. S.

Peach Dagmar.—This is, as "C. N." says on page 459, a free bearer and an easy variety to grow, and thus would make a good amateur's Peach. In the smoothness of the skin it is, I think, the most distinct of all Peaches—at any rate, I cannot recall another variety that will compare with it in this respect. With me it is rather under than medium-sized, but as my trees are young, the fruits may improve in size as they attain age. It is a pretty Peach in shape and colour, and to those requiring variety it might be strongly recommended. Like "C. N.," I can speak of it only as an indoor variety, though I do not see any reason why it should not be equally suitable for outdoor planting.—W. S.

Currants as pillar trees.—Garden walls of considerable height are usually furnished with pillars for strengthening them. Red and White Currants thrive exceedingly well trained on these. Trees with three main upright branches are the best; these if kept closely spurred in and well nourished at the roots will bear regularly and well. Both the red and white varieties may be grown in this way, those which make straight growths being preferable. Pillar-grown trees have the advantage over ordinary bushes in various ways. The fruit can easily be protected from birds and the foliage kept free from insects by the use of the garden engine. An east wall is as good a position as any, and here the fruit will hang a long time in good condition. Pillar Currants also have a very ornamental appearance. One of the largest and best Red Currant trees I ever saw grew on the east end of a cottage in South Notts. It almost covered the end of the building, and when in fruit was quite a picture.—J. C.

Apple Maltster.—I notice in a recent issue a letter from Mr. Crump respecting this Apple. Tastes differ about most things, but personally I should not class Maltster as a highly flavoured dessert Apple, and although I know at least one large grower of fruit for market who strongly advocates this variety, it is not one which has ever been in much demand with the general public. My object in writing was not, however, to discuss the merits of this Apple, but simply to state what I know about its hardiness. In 1880 and 1881 we had two very severe and protracted winters, and we had a number of these trees which were forty years old killed down to the snow-line. The trees were situated in a large orchard of some 32 acres, which is planted on the slope of a hill. Maltster occupied a square

of about an acre on the table-land at the top of the hill. The trees were surrounded by other Apple trees on three sides, viz., north, east, and south. Not one of the other Apples was injured, but every Maltster died, and the place they occupied may be seen to-day. The trees were standards worked on the wild Crab, and the stems would be as thick as a man's thigh. Since witnessing this I have always fought rather shy of Maltster, and should certainly not recommend anyone to plant it in a cold district. I ought, perhaps, to say that we generally register as many degrees of frost at Chilwell as anywhere except Loughboro', which station is always an easy first to anything south of the border.—A. H. PEARSON, *Chilwell, Notts.*

NOTES AND QUESTIONS.—FRUIT.

Nectarine Hunt's Tawny.—One rarely sees a note on this very useful early Nectarine. It is too good to be allowed to drop out of cultivation. I have not grown it for some years, but used to be very fond of it. Certainly the fruits are rather small, and this possibly prevents its being much grown, but it is delicious when well finished and the colour of the fruits inside and out was much liked. The tree is a good and very healthy grower, and invariably fruits well.—J. C. T.

Apple Tyler's Kernel.—All that "W. I." has to say in praise of this Apple (p. 461) is well merited, and it is indeed a very free-fruited valuable sort. At the recent Crystal Palace fruit show I noted several excellent dishes of it, and one in particular, but by whom it was exhibited I now forget. These fruits were remarkable for their size and high colour, and I doubt whether they would have been recognised by growers in the county of Hereford, where the variety has long been known and cultivated. It is a first-rate market Apple.—A. W.

Pear Comte de Lamy.—Mr. Crawford is to be commended for drawing attention to this highly flavoured little Pear. In my opinion no garden where soil and climate are suitable for fruit growing should be without it. I have met with it in very many parts of the country, and growing in a great variety of soils, and also had a good deal of experience with it in the east of England. In all cases it was a success, both as regards flavour and cropping, and the same may be said of its behaviour here.—A. W., *Stoke Edith, Hereford.*

Apple May Queen.—At the first exhibition of Chrysanthemums and fruit recently held under the auspices of the Malvern Horticultural Society, this too little known late dessert Apple was shown in excellent condition by various exhibitors. So far I have never met with it out of Worcestershire, which is its native home, but two or three nurserymen now catalogue it, so that ere long we may reasonably expect to find it better known and more largely grown. It is an excellent variety, the fruit, which is highly flavoured, keeping well into May, while it is a free bearer.—S. E. P.

Apple American Mother.—"C." Norwich (p. 417), writes that he was unaware until lately that this variety would make a good pyramid. It also succeeds and bears well as a bush, the fruits on which are generally very highly coloured and richly flavoured. I have seen it exhibited very frequently at fruit shows this autumn, and in the majority of instances in good form, both as regards size and colour. It is a capital table Apple, and, as "C." justly remarks, no garden should be without at least one tree of it.—A. W.

—I recently saw some beautifully coloured, large fruits of this variety. At page 417 "C." notes the excellent qualities of this variety when grown as a pyramid. I find grown as a cordon it does not like the severe pruning necessary to keep the trees in shape. On the other hand, it cannot be termed one of the best doers in wet, cold soils. I find I get the best crops from bush or pyramid trees not severely pruned. I lift every few years, this promoting a fruitful growth. The quality of the fruit is not nearly so good when grown on a gravel subsoil. It grows well in the north, as I have seen excellent crops in Scotland. In my opinion many could grow this variety if they gave it more freedom of growth. Of course, soil is equally important, as I notice, in spite of made borders and the best

culture in some gardens, it has given a very poor return.—S. B.

FLOWER GARDEN.

ZAUSCHNERIA CALIFORNICA.

ONE of the many pleasant things in connection with gardening is the willingness of others to come to one's assistance when in a difficulty. I have had a fresh instance of this in the communications regarding *Zauschneria californica* which have appeared in THE GARDEN or which have come to me privately. To these correspondents I have to tender my best thanks before referring to their remarks in detail. What I said was not the result of isolated experience, but of a somewhat wide interchange of observation. If one's notes were despondent, they have had the effect of eliciting more cheering experiences, which may give some of us courage to try again. Yet it is doubtful if we have found the secret of success, because under apparently similar or closely related conditions in different gardens the *Zauschneria* blooms or fails to bloom for inexplicable reasons. With its hardiness few of us have any fault to find, but the test of its usefulness in the garden is its flowering, and in inducing this we have much to learn.

I have no knowledge of the precise conditions under which it is grown in the Cornish garden to which I referred except from the note which recently appeared in these pages from Burngoose. I have, however, the following note from a hot, dry garden in Gloucestershire, supplementary to a laconic, but expressive one a short time ago, which was: "Discarded; runs about, but will not bloom." The following is now to hand: "I have just been reading your note on *Zauschneria* and *Plumbago Larpentæ*. I have discarded both. The former I grew on a very high and hot rockwork, and it ought to have blossomed."

To Mr. H. Selfe-Leonard, Mr. F. W. Burbidge, and Mr. S. H. Boyle I have to tender thanks for their notes in your issue of December 17. The only other plan to induce the plant to flower which I have not yet tried is that of growing it in a wall. I do not care for growing plants under glass and then planting them out to flower. Mr. George Walpole, whose success with the *Zauschneria* in the charming garden at Mount Usher is referred to by Mr. Burbidge, has kindly written me giving full details of how it is grown there. Grown for some little time with little care it gave but little flower. Its rambling habit caused it to require cutting in, and some of the pieces which were thrown into the river got washed in between the dry stones of the river wall. There some of them took root, flourished, and gave a full show of flower. The wall, which faces south-west, was planted with the *Zauschneria* between the joints, and a sheet of well-developed blossoms results. It has also been tried on a wall away from the river facing S.E. by E., where it promises well also. I regret that in observing the many features of interest at Mount Usher while there in June I had not asked about the *Zauschneria*. So interesting a garden cannot be seen in a short visit. One is tempted to quote from a letter from Mr. Osgood Mackenzie from Poolewe, N.B. Mr. Mackenzie says the *Zauschneria* is of no use "in an ordinary situation (say in a shady rockery), but at the foot of a south-west wall on a high exposed terrace it flowers fairly well every year." My obliging correspondent says that a plant from his garden which went to Tulloch Castle, on the east coast of Ross-shire, bloomed

well and regularly in an ordinary border in rich, stiff clay.

One would gather from the comparison of experiences that latitude has, within a certain range, little to do with the behaviour of this plant, but that it depends upon some other conditions, which we must be able to furnish or confess ourselves beaten. I am inclined to think that clay will be found the best soil for this plant, whose flowers so many would like to see in their gardens.

As one expected, the further correspondence upon this plant shows considerable discrepancy of experience. To all those who have contributed to it allow me to give my best thanks. Had nothing else come from it, the valuable note by Mr. Burrell would have justified the opening of the question. The day before publication of THE GARDEN of December 24, a friend who had had unsatisfactory experience with *Z. californica* sent me a note telling me of the early-flowering variety referred to by Mr. Burrell. Of the others I had known, but that which flowers in July had not come under my notice. This variety will be invaluable to many who cannot bloom the others. If my remarks were too depreciative, some allowance must be made for years of disappointment. Some of the remarks regarding *Plumbago Larpentæ* which have appeared are founded on a misapprehension of what I said. If your correspondents will refer to the article, they will see that the *Plumbago* was only mentioned incidentally, and that what was said will not bear the interpretation they put upon it. In a recent article I said that *P. Larpentæ* flowered regularly with me on a dry, sunny rockery. In conclusion, I hope to have the satisfaction of growing the early form of *Zauschneria* and to have the pleasure another year of speaking favourably of it.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

—As one who has a vivid recollection of the enthusiasm which the late Donald Beaton, of Shrubland Park, evoked for these two Californian plants, I have been greatly interested in the instructive discussion that has recently occurred in regard to both, but especially the *Zauschneria*. On the dry soil of Shrubland and in many other cosy situations both the plants proved hardy at the foot of a wall or with the shelter of a rockwork. The *Zauschneria*, however, is the more tender of the two, and a handful of dead Bracken is a safe protection in winter and spring. In the further north to which Mr. Arnott refers the plant is worth wintering under glass and planting out in favourable sites for blooming towards the end of May; but in East Anglia and elsewhere I have found both these plants thrive and bloom best under hardy treatment. I also like Mr. Burbidge's suggestion of growing the *Zauschneria* on walls, and would like to see the effect of *Plumbago Larpentæ* grown in mixture with it. Failing this, the old *Linaria Cymbalaria*, all too little and seldom used as a wall climber, would form a charming background for the glowing brightness of the Californian *Fuchsia*. Not a few of our semi-hardy plants do not bloom or are killed outright through overfeeding and excessive supplies of water at the roots. It is, in fact, too often forgotten that a semi-starving regimen and free exposure to light and air are the chief conditions of free and profuse blooming. The *Zauschneria* and *Plumbago* go well together; the orange-scarlet flowers of the former contrast well with the bright violet or blue of the other. Neither is of much value for cutting, but in these days, while the majority of our plants are cut to pieces almost before they reach perfection, it is a special pleasure to come upon groups or masses of these two brilliantly effective plants in the garden for several months in the year, and saved from cutting through structural and constitutional characteristics. It is pleasing to find, through the numerous favourable notices that have appeared in your pages, that though the late Donald

Beaton's high ideals of these plants were hardly realised, yet both have proved very showy and useful in many situations.—D. T. F.

Violet Marie Louise.—I planted last May a bed 30 feet by 9 feet. The runners were taken from old plants that had been growing in frames through the winter. The ground was deep and roughly dug. No manure was applied at the time of digging. Before planting I gave a top-dressing of bone-meal, wood ashes and fowl droppings, the whole being thoroughly well mixed together, spread on the surface, and well raked into the soil. The plants were set out 1 foot each way, all runners being taken off as soon as they appeared. In the third week in July I gathered the first bunch of Violets, and from that time up to the present I have been gathering from six to fourteen bunches every week. The plants have had frequent dressings of the same mixture and heavy waterings. The bed is in the open, having no protection whatever. Many of the flower-stalks are carrying two blooms.—RICHARD NISBET, *Market Drayton*.

Retarding Iris bulbs.—In his interesting and instructive remarks on Iris culture (p. 471) "E. J." refers to the uselessness of planting the Spanish Iris late with the idea of securing a successional batch of bloom. I used to grow many hundreds of this beautiful species for cutting, than which nothing is more suitable, and, thinking to lengthen the flowering season, I planted a portion of the bulbs in October, keeping the remainder on a shelf in a cool room till the new year. At first growth seemed satisfactory, but in the end it was weak and the blooms poor, expanding at the same time as those of the autumn-planted batches. After that I secured a succession of bloom by planting on various aspects, which is the only way it can be done. They did remarkably well in my light soil on a north border, but I could never induce them to do well the second year, although in a neighbour's garden, in a stronger soil, they lasted several years.—J. C.

A NOTE FROM SMYRNA.

MR E. WHITFALL, in a letter to us from the above-mentioned place, dated December 15, says: "If I have delayed in replying to your kind letter of August 18, I have an excuse in the many anxious moments of the past six months. The massacre in Crete cost us the life of a trusted agent and the destruction of our offices, in which he was burnt alive with our whole staff of porters, &c.—some twenty-five souls. The resulting wave of fanaticism over our province brought danger still nearer home. Then all the crops in this part of Asia proved great failures, and misery and poverty following in their train brought insecurity to the front. Murder and robbery are heard of everywhere, and amongst the first victims was my nephew (not myself, as announced in THE GARDEN), who for a week was in the hands of brigands. Thank God, all's well that ends well. Now we are anxious to have rain. Here we are, almost at Christmas, and we can almost sit with our doors and windows open. The weather is lovely, the garden bright with all sorts of summer flowers, to which can be added such plants as Camellias, Azaleas, Hyacinths, &c., but what of next season's cereal crops? The thought is simply appalling. God grant He may hear the prayers of the poor peasants, who join together, irrespective of faith, in their public supplications for the much-wanted rain. Of course, after my description of the state of the country you can understand that collecting is not easy, but still I hope to plod along again next year. I hope you will not mind correcting in your journal the statement by Mr. Burbidge of my capture. Of course, few in England know, but the Whitfall family is a patriarchal one, my mother, who is alive and well, counting a good many over 100 children, grandchildren, and great-grandchildren."

NOTES OF THE WEEK.

Phyllocactus Billardieri is a very showy kind, with large, handsome flowers of a deep rose, shading to pink at the edges. The large trumpet-shaped blossoms are just now as attractive as they are handsome and distinct. The tone of colour is quite exceptional.

Hippeastrum calyptratum var. *pallidum*. This very distinct form may now be seen flowering in the No. 7 range in the Royal Gardens, Kew, the scape, which is nearly 2 feet high, carrying a pair of the curiously coloured flowers. The predominant shade is greenish, with occasional lines of white and a margin of creamy white.

Datura suaveolens.—The large, drooping blossoms of this species, though not abundantly produced at this season, are, nevertheless, showy and acceptable even where but a few are forthcoming. Formerly these plants were more largely grown, and under the name of *Brugmansia* were to be found in many sub-tropical arrangements in summer, the plants flowering in August and September.

O. honna trineiva.—There is a wide gap apparently between this rather tall-growing kind and the better-known *O. cheirifolia* that forms so striking a feature in the rock garden. The former species has a tree-like stem to 5 feet or 6 feet high, terminated by a tuft of pale glaucous leaves. From amid this dense head of distinct foliage the small golden flower-heads issue, borne on a three-forked stem and sufficiently long to clear the leaves.

The recent storm.—In the more exposed portions of Richmond Park large limbs of trees have been wrenched off during the storm of Monday night, whilst the fine old timber in Syon Park, the seat of the Duke of Northumberland, also suffered severely. At Kew Gardens a lot of damage was done to the trees, and at times the staff had considerable anxiety as to the safety of the high glass roofs of the great Palm house. The parks in London have suffered considerably, notably Greenwich Park, which is more exposed than any of the others. In Victoria Park, Dulwich Park, and Ladywell Park, Lewisham, several trees have been torn up.

Peristrophe speciosa.—For a good and showy flowering plant in the greenhouse or conservatory at this season the above-named species would be difficult to surpass. As a free-flowering bush of good habit and of easy culture this species, with its profusion of mauve-purple blossoms, is worthy of more attention than it receives. Large plants, nearly or quite 3 feet high and in considerable quantities, are now very attractive in the greenhouse at Kew.

Iris Bakeriana.—In a sunny position this gem among early-flowering Irises came into bloom a day or two before Christmas. Unfortunately, the weather has been such that the flowers are short-lived. Drenching rains and furious winds are too much for this exquisite little bloom. The blue and white flowers are, however, very beautiful while they last. Associated with early Snowdrops, *Iris Bakeriana* in a mass would form a delightful picture on a sunny day in winter.—S. ARNOTT, *Carslough, by Dumfries, N.B.*

Poinsettias.—A very striking feature just now in the large succulent house at Kew is the number of these plants (which the modern botanist has now referred to *Euphorbia*) arranged at intervals throughout the structure. At this time of year flowering plants are not numerous in this department, so these *Euphorbias*, while in keeping and associating with other species of the genus, lend a little colour to the whole. In this comparatively cool place the plants long retain their brilliant bracts.

Cyclamen persicum var. *Papilio*.—What the future developments of this strain may be it is difficult now to foresee, and equally impossible to say whether such developments may be any improvement on the present high class strains so justly admired. Of the beauty of many of the best strains now in commerce there is little need to speak. These winged or feathered kinds, however, would appear to open out quite a new field. Already several years have elapsed since the first appearance of the feather in these flowers, so that, if slow, the advances are marked.

Early Irises.—This has so far been the most favourable season for these plants I can remem-

ber. *I. Histrio* opened its first flower on November 9, *I. alata* on the 13th, and they have flowered profusely and continuously ever since. *I. Bakeriana* opened on the 24th inst., while flowers of *I. stylosa* have been fairly plentiful since the middle of the month, or about two months earlier than last season. *I. persica Vogeliana* began to open on the 20th inst. I send you flowers of these. They vary much in colour; some of the Quaker-grey and purples are charming.—T. SMITH, *Newry*.

Aloe ciliaris.—Few species of *Aloe* are so free-flowering as this. For cutting, the long tubular blossoms, not unlike a rather long *Lachenalia* in appearance, are of a yellow shade and tinged with orange on the upper part. The prettily-coloured flowers gather together on rather short, thick spikes of some 8 inches in length, and in their position close against the roof glass are rather attractive. This is as much due to the distinct colour as to the many spikes a good-sized example will produce. A capital example of this free-flowering species is now an attraction in the large succulent house at Kew.

Tibouchina (Lasiandra) macrantha.—There is perhaps no greenhouse flowering plant to vie with this when in flower. It is so at almost any season of the year, even when good flowering subjects are fairly abundant, and even more so in winter-time, when of necessity the number is greatly reduced. Most frequently the greater flush of flowers is produced during the autumn, but where a north aspect can be given the above, a large number of flowers may be regarded as more or less certain during winter. At any season the richly coloured flowers are welcome. Where a fair amount of roof space can be given this constitutes one of the best positions for it.

A new Rose.—M. Bonnaire, of Lyon-Monplaisir, has been awarded a medal for a perfect Rose called *Mme. Charreton* (a Tea). The flower opens well, is well made, and in colour varies between canary and orange-yellow. M. Bonnaire has already brought out a number of beautiful Roses, *Docteur Grill* to wit, a very handsome variety of Tea Rose, very good as a cut flower and for planting in masses; also *Souvenir de Victor Hugo*, in colour china rose, shaded with capuchin-yellow; also *Elisa Teugier*, a variety of the first order and a beautiful pure white. This last-named variety may be advantageously substituted for *Niphetos* as an open-air flower for cutting.

Senecio grandifolius.—From the specific name it may be assumed that this fine Groundsel has nothing but fine foliage to recommend it. Such, however, is not the case, as, apart from the well-proportioned leaves, which possibly are the largest of any species in this remarkable genus, there is a huge head of bloom sometimes 2 feet across. Well-developed plants of this species attain to 6 feet and sometimes 8 feet high, such plants producing a large flattish head of golden yellow. At this size, however, the plant is only suited to large structures, though smaller examples may be secured by restricting the root-room at potting time. As an attractive winter-flowering species the plant is worthy of attention.

Galanthus Olgae Reginae.—As to this species, I beg to remind Mr. S. Arnot that we had two consecutive seasons very unfavourable to the growth of bulbs. After a year or two following their introduction, most bulbs conform to the conditions under which we condemn them to grow. If *Galanthus Olgae Reginae* is grown in a frame, not lifted or transplanted and kept dry for three months, it is sure to show its flowers in September, being the earliest of all Snowdrops. This quality, and nothing else, is its principal value. The Dutch growers can tell a sad tale this year about the difficulties of growing bulbs to a fair size in seasons like the one just past. Although I introduced *G. Olgae Reginae* to cultivation, yet I do not recommend it but for its early flowering. Of all *Galanthus*es I have ever grown, *G. caucasicus grandis*, from Straffan

House, seems to my idea the very best.—MAX LEICHTLIN, *Baden-Baden*.

Cyrtanthus McKeni.—The pretty Cape flowering bulbs composing this group, though exceedingly attractive in appearance, and of easy culture and free-flowering withal, are all too rarely seen in cultivation. Like many other Amaryllids, these require but little attention for several months, and the needful labour at any time is but slight. The arching tubular blossoms rarely fail to attract attention, the individual blossoms curving in an arc shape from the summit of the slender scape. The kind mentioned has blooms of almost snowy whiteness, sweet-scented, and each about 3 inches long. Several of them are produced on each stem. Usually the flowering period follows closely upon that of Nerine. A course of treatment similar to that for *Hæmanthus* or *Nerine* is quite suitable to the members of the above group.

Tulip Vermilion Brilliant.—Very few varieties of Tulip approach this in the shape of its flowers. It is almost unique in point of colour. Yet another point which most Tulips lack is the thin, slender stem. This materially assists a more graceful bearing. Many kinds have stems so thick and rigid that in a vase they are little short of clumsy. For this reason alone a few more of a type similar to the above would be welcomed. The above variety is a capital one for forcing, and while somewhat more expensive than ordinary forcing kinds, will not fail to give satisfaction at flowering time. Slightly smaller in flower, and the buds more graduated and tapering to the tip, this kind more nearly approaches perfection in its flowers than any other of the bedding sorts at present in commerce.

Asparagus Sprengeri compactus.—This distinct form, which received a first-class certificate from the floral committee of the Royal Horticultural Society at its last meeting for the year 1898, is a plant of considerable promise. Singularly enough, there are now three gradations of

this species, all sufficiently good, distinct, and ornamental to be included in one collection. The type has long drooping branches that extend to several feet in length. Next to this is the variety *A. S. densissimus*, which, coupled with a more densely set growth, is considerably restricted in its drooping, being but barely half so long as the original. This intermediate kind, as it may well be termed, is a most valuable plant, though it does not appear to be generally known. Lastly, there is the variety *A. S. compactus*. This, indeed, is more widely distinct than is *A. S. densissimus*, as the latter may without comparison be taken for a partially developed plant of the original species. Such, however, could not happen in the case of *A. S. compactus*, which produces a veritable cushion of its fronds, that gracefully arch over each other to a length of about 15 inches in the longest growths. It is in this respect just long enough to perfectly hide the receptacle containing its many tuberous roots, the habit of growth very dense, and the latest-formed growths but half the length of the earliest. If raised above brightly coloured Crotons or the like, or even as a centre-piece for the dinner-table, its effect would be excellent.

PUBLIC GARDENS.

New park for Ealing.—At a special meeting of the Ealing Urban District Council, under the presidency of Sir E. Montague Nelson, fourteen out of sixteen members being present, it was resolved to accept the offer of Sir Spencer Walpole to sell to the Council, for the purposes of a public park, the Manor House estate. The estate comprises a mansion at present occupied by Miss Perceval, with grounds attached covering about thirty-one acres, the purchase price of which is £40,000. The sale is subject to the life interest of Miss Perceval, and the Council will not obtain possession till that lady's death. The

motion was adopted by the votes of eleven members, three of those present not voting.

The weather in West Herts.—The weather remained cold until the 25th, when a change to much warmer conditions took place. On the first three days of the week the temperature in shade never exceeded 41°, and on the same three nights the exposed thermometer registered from 11° to 14° of frost. On the 27th, however, the reading in the thermometer screen rose to 53°, while that on the grass never fell lower than 40°. At both 2 feet and 1 foot deep the ground is at the present time about 4° warmer than their respective averages for the end of December. Shortly before midday on the 27th rain and hail fell for five minutes at the mean rate of nearly an inch an hour.—E. M., *Berkhamsted*.

Royal Gardeners' Orphan Fund.—A meeting was held on Tuesday last, Mr. Wm. Marshall in the chair. After the usual routine the secretary announced the receipt of the following special donations: Altrincham Gardeners' Society, £15 10s.; Scottish Horticultural Association, £15; Canterbury Hospital and Charities Fête, £5; H. Herbst, Richmond, proceeds of box, £5; Chislehurst Gardeners' Society, £3 14s.; Pensehurst Gardeners' Society, £3 3s.; Mr. Selway, Betteshanger, £2 10s.; and several other smaller amounts. The nomination forms were received, there being nineteen applicants, who were found eligible and put on the list. The election of officers for the ensuing year was proceeded with, there being four retiring members, whose places have to be filled. The secretary, Mr. Barron, announced that he would not seek reelection on this occasion on account of the unsatisfactory state of his health. The committee expressed much regret at the loss of Mr. Barron's services, and appointed a sub-committee to make arrangements for the appointment of a new secretary.



